RAILROAD FINANCE

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BY

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PREFACE

The purpose of this volume is to describe the methods of financing Railroads in the United States. A preliminary draft was used as a series of lectures before the Wharton School of the University of Pennsylvania in 1901 and 1902. Later, in collaborating with Mr. Powell, the historic side of "Railway Promotion and Capitalization in the United States" was worked out for the Carnegie Institution and published by Messrs. Longmans, Green & Company. During the years which have followed, as time could be found, this collaboration has continued. Since the first two chapters of this volume traverse the same subject as the volume above referred to, use is made of some of the same materials.

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Washington, D. C.

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CHAPTER I

THE ECONOMIC BASIS OF RAILROAD INVESTMENT

Capital Devoted to Transportation Enterprise.—A hundred years ago the only railroad known was the tramway. Twenty-five years later the steam locomotive existed as an object of speculative interest, but it had no place in the world's industrial system. The second quarter of the nineteenth century was given over to experiments, and to the development of the practical side of construction and management; yet during this brief experimental period about eighteen thousand miles of railroad were built, and over $1,500,000,000 of capital expended. More than nine thousand miles of this development took place within the United States, a new country, with little capital available. It is at first a matter of surprise that so much capital should have been devoted to a new undertaking, and more especially that a large proportion of the expenditure should have been in a country slightly developed and little known.

Some writers have regarded this as a period given over to reckless adventure, which brought with it wholesale destruction of capital and national disaster. But whatever the disturbances of credit due to railroad promotion, the fact remains that it was a time of great material progress, and that few of these early railroads were unsuccessful from the viewpoint of national wealth. In England such enterprises as the Liverpool and Manchester, and the London and Southampton were got under way. In America the Western, the Boston and Providence, the Old Colony, and the Boston and Lowell of Massachusetts; the Hartford and New Haven of Connecticut; the Philadelphia and Co-

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lumbia and the Philadelphia and Trenton of Pennsylvania; the Camden and Amboy of New Jersey; the Baltimore and Ohio and the Baltimore and Susquehanna of Maryland were a few among the many successful projects launched before 1850. Taking the entire list of roads built during this early period, it would be difficult to find even a local tramline which has not become a permanent part of some splendid system of transportation.

In England, Germany, France, Belgium, and in the United States these early railroads were, and are to-day, among the most valuable and productive properties in the whole economic system. Furthermore, not a few of these early roads were regarded as conservative investments, and subsequent experience has approved the judgment of the men of that day who had sufficient capital fully to equip the enterprises. Within a century it is probable that the people of the United States had invested no less than twelve billion dollars in the improvement of country roads and turnpikes, one billion dollars in river and harbor and canal improvement, state and national, and twelve billion dollars in the construction and equipment of tramlines and railroads; not less than twenty-five billion dollars of capital found employment in inland transportation enterprise.

The Economic Basis of the Railroad.—The principle underlying investment is certainty of return. Before the investor will be attracted to an old and well established enterprise, there must be *assurance of income* on capital expenditure. To attract him to new and untried fields, there must be *assurance of increased profits* —something above the current rate. Something in the nature of a "bonus" must be held out to cause thoughtful men to turn away from old and well-known lines of investment. What was there to give this assurance? What was the situation which offered profits in transportation development?

ECONOMIC BASIS OF RAILROAD INVESTMENT

The Inducement to Investment.—A vast wilderness with only a fringe of civilization, a continent almost unexplored, was the America of 1790. The frontiersman was still to be found in the small clearings of Maine, New Hampshire, and Vermont. Fully two-thirds of New York and Pennsylvania were yet unclaimed—a common hunting ground. In this situation was found the extraordinary inducement, the "bonus" held out to investors in any schemes of transportation which would make the inland resources available. Here were whole empires of valuable timber and agricultural lands, rich deposits of iron, coal, and other minerals—all materials of national wealth—waiting, a prize to him who might claim them as a reward for enterprise. The cost of transportation equipment has been enormous; yet the inducement has been at all times sufficient to attract the investor.

Saving Made Possible by Better Roads.—The financial inducement to transportation improvement was of two kinds: the saving which it would make within the territory already developed; and the interior resources which might be reclaimed beyond the reach of the system supplanted.[1] By way of illustration of the relative advantages of the various kinds of road equipment, let us take a town as a center. Assuming all the land round about equally adapted to yielding a crop of oats, which might be marketed at ten dollars an acre on delivery at this trade center: Over an ordinary horse path or trail a horse may carry about two hundred pounds; on a cart, over a good dirt road, the same horse may draw one thousand pounds; on a turnpike of macadam bed, about two thousand pounds. From this statement of the case, the relative advantage to the producer of the better road is apparent. If a pack horse could move the product of two acres a mile a

[1] See "Are We Building Too Many Railroads?" *Amer. Railroad Jour.*, XXV, 305-6, 395-7, 410-11. (1852.)

day at a cost of two dollars, then the net return would be nine dollars from each acre one mile from the trade center, eight dollars from each acre two miles distant, etc., until the ten-mile limit had been reached, when the cost of transportation would consume the entire selling price of the product, and render production an economic impossibility. In fact, cultivation would stop before this point was reached, owing to the cost of marketing the crop. Under exactly the same conditions of production, above assumed, it would cost only one-fifth as much to get to market over a dirt road. The result would be that over one million dollars annually would be saved to this small community in decreased cost of transportation within a radius of ten miles. The capital cost of the necessary equipment would not be more than six hundred thousand dollars. Assuming that the land were all improved and awaiting better roads, about one hundred and seventy per cent. would be the annual return to the community on the investment. Besides this saving, the area of production would be carried from twenty to forty miles farther into the interior. From twenty to forty miles of tributary territory with all its productive resources would be reclaimed, and the income over cost of production within the marginal circle would be an additional gain. But under our assumption, oats being the only crop, when the fifty-mile limit had been reached by the dirt road, then all the territory outside this limit would be without a market. With each kind of crop, the same principle would apply, limits of practical activity being determined by cost of production and market price. The advantage to be gained through better transportation facilities not only explains the early appropriations, but the early acts also show that the inducement was clearly perceived; this fact being set forth in the preambles of many of the acts appropriating money for local improvements.

Advantage of Turnpike Construction.—Convert the common wagon road into a macadamized pike and the cost of transportation would again be reduced about one-half. On the assumption above, over sixteen million dollars per annum would be saved to the community within a radius of fifty miles, at an added capital cost of about sixty-four million dollars; that is, some twenty-five per cent. could be realized by the community on the investment within the area previously equipped with wagon roads, while the radius of profitable production would again be extended. All lands within from sixty to eighty miles would be brought within the range of the central market. True, no such uniformly fertile and uniformly developed community exists, and as a result turnpikes were built only as trunk lines through the best producing land and on the most traveled routes. But the principle is the same, and the argument quite as potent. With this computation in mind, it is easy to understand why the shares in some instances were subscribed four times over by those interested in obtaining better roads.

How Profits Are Divided.—Around Philadelphia were ordinary mud roads, which were impassable during a considerable portion of the year. The western terminus of the Lancaster pike was to be in the Susquehanna valley, and a large and fertile territory would thus be opened to trade with that city. The business of merchants would be increased, the resources of the country would be more fully developed, and industry would become more active. It mattered not whether the profits of the enterprise were to be shared by the subscribers as dividends to shareholders, or whether they were to come in the form of increased business prosperity; the inducement for capitalization was present, and the plan of profit sharing was important only in determining the class of interests to which appeal was to be made for the capital necessary for the improvement. Certain it

was that the enterprise would be a fruitful investment to the community at large. If the subscriber were an investor (a capitalist), he would look to dividends; he would base his judgment upon the rate of toll which would bring to the corporation the largest income. If he were a merchant, a manufacturer, a farmer, or a legislator representing the various interests of the state, his prime motive might be that of reducing rates of toll as a means of extending trade or industry and increasing the net profits of business. An effort was usually made to draft the plan and limit the tolls in such manner as to appeal to both classes. That this calculation was ever present in the minds of the people, as well as a guiding principle in legislative action, appears not only from the contemporary press, but also from the assembly records themselves. The ever present question was, what is the lowest maximum rate of toll which will leave a margin sufficient to attract capital to the enterprise? In some instances, the toll was fixed at a definite maximum per mile; in others, greater latitude was left to the company for the exercise of discretion by the introduction of a clause limiting profits to a maximum rated to capitalization. Still other charters contained both regulatory provisions. Thus the charter of the Eastern and Wilkesbarre Turnpike Road company in 1803 prescribed the tolls, and limited the dividends to six per cent. on the shares.[2] The Uniontown and Cumberland charter in 1804 prescribed the tolls and limited the dividends to nine per cent. on the shares.[3] The apportionment of profits was a compromise by which a very large percentage of the gain was distributed to the general community in the form of lower rates, a certain maximum rate of toll being given to the company as a source of dividend.

Investment Basis of the Canal.—A hundred miles of good road on the seacoast was but a narrow fringe when compared with the network of traffic lines necessary to

[2] Smith, Laws of Pa., IV, 7. [3] *Ibid.*, IV, 141.

serve a great stretch of inland territory which could not be economically reached by a wagon road. Wheat at a dollar a bushel may not be hauled with profit on an ordinary road more than one hundred and fifty miles; while lumber, charcoal, mineral coal, iron ore, hay, and grain will permit of transportation a much less distance. The only solution for the transportation problem for a large portion of the interior, therefore, must be found in further improvement—better equipment and lower cost. In England the canal had already proved of benefit to the producer in the form of lower rates; to the consumer in the form of lower prices for goods transported; and to the investor in the form of dividends. By means of a canal a single horse could draw from ninety thousand to one hundred and twenty thousand pounds as easily as two thousand pounds could be hauled by wagon on a turnpike. With this equipment one horse and one drayman could haul as much as fifty horses and fifty carts and fifty draymen. In the most favorable localities the capital cost of a canal was from three to five times greater than the capital cost of a turnpike. Where the lay of the land was less favorable to canal construction, the capital cost increased in proportion to the difficulties of excavation and the cost of locks to obtain water level.

Advantage in the Long Haul.—This large capital cost confined the advantages of canal transportation to a long haul. Within a narrow radius the saving would be small; in the well settled and well improved districts, the average gross return from an acre of agricultural land might not exceed ten dollars. Assuming that on a turnpike it would cost one dollar to market the produce of an acre of land ten miles distant, the saving within this small radius would not pay the interest on the increased capital cost of a canal. At twenty miles, however, under exactly similar conditions, it would cost two dollars per acre; at fifty miles the cost of carriage over a turnpike would be five dollars

per acre. The advantage to the producer from a cheaper means of transportation would increase directly with the distance, and at fifty miles the inducement to canal construction would be five times as great as at ten miles. From fifty to one hundred miles back from the coast or from navigable water, every interest would favor canal construction wherever there were sufficient resources to warrant the expenditure.

Immediately after the Revolution several canals were projected; and Washington was active in the promotion of the Potomac company. But the country was not sufficiently developed to furnish a base for long haul operations. With the beneficial results following the construction of the first canals, there arose a demand for a means of reaching interior points which were beyond the range of water transportation. For a large portion of the country some improved form of land transportation was imperative, and the great question before the people was by what means this could be obtained. The success of the railroad in England furnished the answer to this question.

We may not say, therefore, that investment in the early railroads in this country was a venture in the dark. The results of experiments in England were carefully considered, and much attention was given to the study and exposition of the economic advantages to result from the introduction of the railroad in particular localities. That this is true may be shown by a sentence from a message of Governor Lincoln of Massachusetts, in which he considered the proposed Boston and Providence railroad: "From satisfactory estimates, and calculations upon the present travel and occasion of transportation, the net receipts from use of the road, after deducting all charges for keeping it in repair, carriages, etc., and upon a saving of one-half in the present cost of transportation, will amount to a sum exceeding sixty thousand dollars per annum." The natural

conclusion, therefore, was "that the construction of the road would be of great public advantage, and a profitable investment of capital."[4]

This estimate was made for a well settled region, in which there was already a turnpike road which travelers reported the best in America. The entire length of the proposed road was to be only thirty miles, and yet the investment value was considered to be such as to earn about forty per cent. on the cost each year. A portion of this was to go to the general community in the form of lower rates; the remainder was to go to those furnishing the capital as return for investment. Estimates of similar nature might be given.

Effort to secure a fair division of the profits which might accrue from improved methods of transportation between the producing public and those who might contribute the funds necessary to the undertaking, found expression in nearly all of the early charters. In this the legislatures followed the practice established with respect to turnpikes. Commercial rivalry between important trade centers was directly encouraged; and not only was local pride and community interest urged as a reason for support, but the investor was also interested through promises of dividends to be realized on the capital necessary to construct a more

[4] *Niles*, XXXIV, 9. (1828.) The estimate upon which this statement was based follows:

Income		
Passenger traffic equal to 50,000 for entire trip at $1.00 each		$50,000
Freight traffic equivalent of 8450 tons entire trip:		
4625 tons at $4.75 per ton 3825 tons at $3.15 per ton		34,000
Total		$84,000
Expenses		
Annual expense of horses, carriages, drivers	$6,750	
Annual expense for heavy transportation	3,505	
Annual ten per cent. additional for covering errors	1,025	
Expense of superintendence making repairs	4,000	15,280
Net income		$68,720

convenient means of transporting goods and passengers from the distant interior.

A View from the Interior.—The manner in which the interior interests regarded improvements of this kind is illustrated by a letter from a member of congress to *Niles' Register:* "I have just received letters from two of ten or fifteen merchants at Wheeling, who state that they alone have forwarded by wagons to Baltimore, on the Cumberland road, during the last year, 3,000,500 lbs. of country produce, tobacco, etc., equal to about 1,750 tons; loading perhaps, 900 or 1,000 wagons; and one of the gentlemen expresses the confident opinion that if the cost of transportation were reduced ⅓ or ½, there would be forwarded from that place alone and the neighborhood (independent of all produce of the rich and productive country), at least 200,000,000 lbs. or 100,000 tons of produce annually. Such has been the effect of the *Cumberland road,* and such would be the effect of a *railroad* from *Baltimore to the Ohio, at Wheeling or Pittsburg.*" [5]

[5] *Niles,* XXXIII, 18. (1828.) The following statement, compiled in England, showing the advantage of the railway over the common road, was used by promoters in this country:

Miles on each side	Tons	Expense by Railway			Expense by Common Road			Difference in Favor of Railway			Twenty-Year Purchase of Difference	Thirty-Year Purchase of Difference	
		£	s.	d.	£	s.	d.	£	s.	d.	£	£	s.
1	2,082	242	12	6	856	17	6	614	5	0	12,285	18,427	10
2	4,164	485	5	0	1713	15	0	1228	10	0	24,570	36,855	0
3	5,246	727	17	0	2570	12	6	1842	15	0	36,855	55,855	10
4	8,328	970	9	6	3427	10	0	2457	0	0	49,140	73,710	0
5	10,410	1213	2	0	4284	7	6	3071	5	0	61,425	92,137	10
6	12,492	1455	14	6	5141	5	0	3685	10	0	73,710	110,565	0
7	14,575	1698	7	0	5998	2	6	4299	15	0	85,995	128,992	10
8	16,656	1940	19	6	6855	0	0	4914	0	0	93,280	147,420	0
9	18,738	2183	12	0	7711	18	4	5528	5	0	110,565	165,847	10
10	20,820	2426	4	6	8568	15	0	6142	10	0	122,850	184,275	0

Advantage of the Railroad Over the Canal.—The introduction of the steam locomotive gave to the railroad its advantage over the canal. Time in transportation is one of the chief elements of cost. A saving of time is a saving of expense. The railroad makes possible the transportation of many products which otherwise might not be marketed at all—products which deteriorate rapidly with age. By the introduction of the canal and the railroad, the margin of profitable industry was extended a thousand or fifteen hundred miles inland. The saving of time made by the adoption of steam locomotion brought the resources of the continent in touch with the common market place.

As late as 1817 it was stated in a report to the New York legislature that the cost of transporting a ton of freight from Buffalo to New York was one hundred dollars, or twice the value of wheat at Buffalo and four times the value of corn.[6] The advantage to be capitalized in providing some cheaper mode of transportation from the Great Lakes to the Hudson was therefore apparent. With the building of canals, transportation costs were greatly reduced, but their construction absorbed so much capital that they could be employed to advantage only upon long distance traffic. Within any short radius, productive possibilities were so limited that the saving from the introduction of artificial waterways was too small to warrant their construction. The introduction of canals, therefore, necessarily resulted in greatly enlarging the territory tributary to the marketing centers which they were built to serve, but they could not effectively serve that great interior from which the products of American industry were to come. This was to be reached by some mechanical means which could serve each of the small areas of the continent. The railroad furnished the solution of the problem. The character of appeal made to the community for the support

[6] *Hunt,* LX, 161.

of railroad projects, and the economic basis for their capitalization, is illustrated by the following:[7]

TABLE SHOWING THE VALUE PER TON OF WHEAT AND CORN AT DIFFERENT DISTANCES FROM MARKET—UPON A RAILROAD AND UPON A COMMON ROAD

MILES	RAILROAD		ORDINARY ROAD	
	Wheat	Corn	Wheat	Corn
0 (At Market)	49.50	24.75	49.50	24.75
10	49.25	24.60	48.00	23.25
20	49.20	24.45	45.50	21.75
30	49.05	24.30	45.00	20.25
40	49.00	24.15	43.50	18.75
50	48.75	24.00	42.00	17.25
100	48.00	23.25	34.50	9.75
150	47.25	22.50	27.00	2.25
160	47.10	22.35	25.50	.75
170	46.95	22.20	24.00	
200	46.50	21.75	19.50	
250	45.75	21.00	12.00	
300	45.00	20.25	4.50	
320	44.70	19.95	1.50	
330	44.55	19.80		

Thus a ton of corn one hundred and seventy miles from market was not worth hauling over a common road, but its value when rail carriage was possible was $22.20. And a ton of wheat while not worth the cost of a wagon haul of three hundred and thirty miles, by the very fact of the existence of a connecting line of railroad was worth $44.55. Admitting that it must have been based upon a rough approximation, such a showing as this contributes toward a

[7] *Ibid.*, XXIX, 377; *Amer. Railroad Jour.*, XXV, 705-6, 928-9.

better understanding of the spirit which animated those who supported the early railroad ventures. Although many problems remained to be worked out, and the future could not be clearly seen, the one fact that the railroad presented itself as so tremendously effective an instrument of trade compelled its adoption. "It is not merely because his supreme happiness consists in that speed which annihilates time and space," wrote Chevalier in 1835, "it is also because he perceives, for the American always reasons, that this mode of communication is admirably adapted to the vast extent of his country, to its great maritime plain, and to the level surface of the Mississippi valley, and because he sees all around him in the native forests, abundance of materials for executing these works at a cheap rate. This is the reason why railroads are multiplied in such profusion, competing not only with each other, but entering into a rivalry with rivers and canals." [8]

[8] Chevalier, "Society, Manners and Politics in the United States," 337.

CHAPTER II

PROMOTION AND UNDERWRITING[1]

Promotion and Exploitation.—The methods of railroad promotion have varied widely in different sections of the country and at different periods in our railroad history. In relatively few instances were the early railroads promoted for purely speculative purposes. True, many of the early lines, connecting neighboring towns, were built because they were expected to increase the activity of local trade; but the motive soon changed. "Railroads," wrote Wellington, "are not undertaken unless they are expected to be profitable, not to the general public, nor to other parties in the near or distant future, not to those who lend money on them, *but to those who at first control the enterprise.*"[2] Many of the early railroads were financed locally and on a conservative basis, but it was not long before the magnitude of individual projects made the use of outside capital necessary. From promotion to exploitation is little more than a step. If there was profit in projecting and building a well constructed railroad by those who controlled its operation afterwards, how much greater appeared the prospect of profit to those who could build as cheaply as possible and sell out their interest at speculative prices! This was encouraged by the attitude of governmental authorities. When, as was often the case, promoters were able to obtain government aid, whether in the form of grants of land, loans, investments in shares, tax-exemptions, or special privileges, the temptation to exploi-

[1] For fuller description of methods of promotion, see Cleveland and Powell, "Railroad Promotion and Capitalization in the United States."

[2] Wellington, "Economic Theory of the Location of Railways," 15.

tation often became too strong to be resisted. Fortunately, the expected reward was not always forthcoming; so while the instances of exploitation have been far too many, it may be said of the typical case of railroad promotion, again quoting from Wellington, that "If the means in hand be not sufficient for the projectors to complete the road for operation and to control the operation, afterwards, the result to them is usually complete loss."[3] It may be said also, that those who have contributed the capital which has gone into the construction and equipment of American railroads have done so in the belief either that their securities would yield a safe and profitable return or that other enterprises in which they were also interested would thereby become more profitable.

Surveys.—Omitting from consideration those exceptional instances in which railroad projects have been the outgrowth of intense local or sectional feeling, which concerned itself little with matters of topography, the first step in the promotion of a railroad is the reconnaissance or general examination of the territory. This is intended to determine the relative advantages of the various possible routes, particular attention being given to the possibility of local financial support, connections with other transportation lines, and the prospect of industrial development. As one or both terminals are usually fixed at the outset by either physical or commercial considerations, the range of choice is limited to the determination of the exact region to be traversed. The preliminary survey, which comes after the reconnaissance, is an instrumental examination of the territory for the purpose of obtaining data which will serve as the basis for final determination of the route. Sometimes several preliminary surveys are found necessary. Finally the locating survey is made, to fix the lines for the guidance of the construction forces, and to obtain

[3] *Ibid.*

detailed information for use as the basis of proposals for contracts.

Location and Operating Efficiency.—It is the problem of location to place the line so that the largest volume of traffic may be handled at a minimum of expense. While the early railroads were generally built with emphasis upon low construction cost, it is the modern practice to spare no initial expense which will result in low cost of operation. The task of the engineer is therefore more difficult, sometimes requiring years of constant work before an acceptable plan is presented. The result is apparent in the lower grades and fewer curves of the new railroads compared with their competitors which were built according to the methods of a former generation. It is also apparent in higher operative efficiency, lower maintenance charges, and more favorable statements of net earnings.

Incorporation.—As soon as a project is definitely under way, application is made to the state for a charter or articles of incorporation, a document which formally defines the powers, duties, and limitations of the persons associated in the undertaking. Upon the group as a unit is conferred the right of corporate identity either for a definite period or in perpetuity, the right of eminent domain, and authority to perform all the necessary functions of a railroad, together with the privilege of limited liability. The limitations of authority are also stated, and the duties of the corporation to the state, to the public, and to individuals are set forth. Most of the early railroad charters were granted by special act of a state legislature, but more recently the practice in most states is to incorporate under general laws. Under the old system of special charters it was only necessary to go before a legislature with a petition stating the purpose of the enterprise, the probable advantage to the public, and the powers desired. There was ample opportunity for lobbying and

bribery, and applicants for valuable privileges were often not unwilling to reward liberally those whose support they were able to obtain. The present system of incorporation under general law requires the petitioners for a charter to comply with certain conditions specified in the act, and upon evidence that this has been done, a certificate is issued as a matter of administrative form. Under the old system, also, it was the practice to specify by name in the charter a number of commissioners who were charged with the duty of receiving subscriptions to shares. In this manner the prominent citizens of a locality could be made to appear as sponsors for the project. Subscriptions must now be obtained before articles of association are filed with the secretary of state, and the prominent names appear at the head of the subscription list. The general powers and privileges are no longer set forth in the articles filed by incorporators, since they are contained in the law itself. In other respects the old and the new methods of incorporation are similar. Many states have granted special charters even after having enacted general laws of incorporation; a practice which in some states is now forbidden by the constitution.

Monopoly and Banking Privileges.—The special privileges which were granted by special act of legislature were usually such as could be capitalized. Many of the early charters contained a provision that the legislature would not grant a charter for a railroad over a competing route until after the expiration of a certain period, usually between twenty and thirty years. Banking privileges were conferred upon many railroad corporations, not only in the West and South, but even in New England. Vermont in 1836 incorporated the Rutland Railroad bank to be established at Rutland with a capital of $250,000. Said the charter: "No operations shall be commenced at said bank, until the said number of two thousand five hundred shares

shall be subscribed, and the sum of one hundred and twenty-five thousand dollars of said capital stock be paid into said bank, and until the stockholders of the Rutland and Whitehall Rail Road shall have actually commenced the construction of said Rail Road, and have expended one hundred thousand dollars in the construction of the same." Also, "No person shall have the right of subscribing to the capital stock of said bank, until he shall have subscribed for the same number of shares of the capital stock of the Rutland and Whitehall Rail Road, as he may subscribe to the capital stock of said bank."[4] And Connecticut in 1832 chartered the Quinnebaug bank of Norwich as an adjunct of the Boston, Norwich, and New London railroad.[5] In so doing these states were not less conservative than their neighbors; for Maine, Rhode Island, New York, and New Jersey granted banking privileges to canal companies between 1824 and 1835.

Tax Exemptions.—Exemption from taxation was commonly granted in the early railroad period, usually for a term of years or until a certain dividend upon the share capital should be declared. Partial tax exemption was also common, a small percentage tax upon earnings being imposed. Sometimes this small tax was imposed after the expiration of the period for which absolute exemption had been granted.

Local Subsidy Enabling Acts.—Legislative authority is required before counties, cities, or towns may grant subsidies to railroads. Authority to subscribe to railroad shares implies power to tax to raise funds for the payment of the subscription, but the right to levy in payment of bonds issued can be conferred only by express grant. Local subsidy enabling acts may be either special or general laws, and special laws may provide for aid from a specific county

[4] L. 1836, c. 38.
[5] Resolves and Private Laws of Conn., 1789-1836, I, 137.

or town or to a specific railroad. Whatever the form of act, the effect has been to confer a valuable privilege upon the railroads concerned.

METHODS OF APPEAL FOR FINANCIAL SUPPORT

The Prospectus.—The variety of methods of appeal for financial support to railroad projects has exhausted the range of possibilities. The prospectus, whether printed in the advertising columns of periodicals or published in pamphlet form, contains descriptive matter aiming to show the proposition in its most favorable light. It contains also such collateral information and testimonials as may appeal to the imagination of the man with money to invest or venture. Reports of surveys have always constituted the essential part of the prospectus literature; and basing their arguments upon the materials thus presented, speakers at public meetings and writers in local newspapers have aroused popular interest and by constant reiteration have succeeded in spreading the facts broadcast.

Public Meetings.—From the first it was the practice of American communities to call public meetings for the discussion of matters of common concern; and it was only following precedent when the early railroad promoters got the people together to consider their projects. At these meetings subscription lists were circulated, and favorable resolutions were adopted. Committees were appointed to prepare addresses to the people, and to present memorials to city councils and state legislatures praying for government aid. Committees were appointed also, to correspond with similar committees elsewhere, for the purpose of obtaining additional information and of enlisting support from towns along the proposed route. Delegates were appointed to attend conventions at which representatives of several towns might pledge their united support. As early

as 1831 we are told that in New York state, "It is almost impossible to open a paper without finding an account of some railroad meeting. An epidemic on that subject seems nearly as prevalent throughout the country as the influenza."[6] This was also the testimony of a Georgia editor, who two years later wrote: "We now hear of meetings all around us, companies are being organized, and plans systematized for projecting and maturing objects of improvement."[7]

The Press and the Pulpit.—Local newspapers were usually active supporters of railroad projects, and both in their news columns and in their editorials contributed generously to the campaign of education. Many of the journals of general circulation and influence also lent their aid to railroad enterprise. In Massachusetts even the influence of the pulpit was given to the support of the Western railroad, in response to a general request for discourses upon the moral effects of railroads.

House to House Canvass.—Finally there was the direct appeal of man to man. A house to house canvass was undertaken in Philadelphia to procure subscriptions to the shares of the Pennsylvania railroad. Boston was thoroughly canvassed in the interest of the Western railroad of Massachusetts. The supply of ready capital in New England caused promoters elsewhere to send their agents there to dispose of shares which they could not sell in the territory to be served. In many instances agents were sent to towns where they had lived, to induce old acquaintances to subscribe.

The Banker as a Financial Agent.—As promotive enterprise became less local, however, there was a general transition from the almost primitive methods which have been outlined to the use of established financial institutions for

[6] Quoted by Mott, "Between the Ocean and the Lakes," 9; from the *Independent Republican*, Goshen, N. Y., Dec. 26, 1831.

[7] *Southern Banner*, Sept. 14, 1833, from the *Macon Messenger*.

the raising of capital. Shares were put on sale by banking houses in New York, Boston, Philadelphia, and other financial centers, and through these financial agencies European capital was attracted to investment in American railroads; though it was long before Europeans could be induced to invest to any extent even in bonds unless those securities bore the endorsement of public authority.

Appeal to the Creditor Class of Investors.—The investors of the creditor class are more difficult to reach than those who are willing to put their money into shares. The offer of a share in proprietorship, with the prospect of a proportionate share in the increased value of the business, and direct participation in the profits, is sufficient inducement to the average man. But the appeal to the creditor must stand the test of thorough investigation and sober judgment. The only thing offered is the right to a predetermined rate of interest and repayment of the principal. The method of appeal must be such as to appeal to analytical instead of creative and imaginative minds. The security must be ample; the rate of return must be attractive. When such an investment is made, the investor must either have facilities for investigation, or the sale must be arranged through agents who have a reputation to sustain—a bond house or its accredited representatives, a bank, or a trust company. So accustomed is the creditor class to this manner of dealing that it is with the utmost difficulty that even an issue of municipal or government bonds can be disposed of without the use of such intermediaries.

UNDERWRITING AND HOLDING SYNDICATES

The "Financial" Banker.—The financial agent of to-day is a banker, but a banker in a different sense from what is ordinarily understood by the term. His function is that of the middleman, supplying customers with investments, and thereby providing purchasers for the securities of cor-

porations which are seeking capital. He "finances" new enterprises, furnishing funds for the expenses of organization, with the assurance that his standing in the financial world is such as to enable him to place the securities whenever market conditions warrant.

Conditions Precedent to Accepting Risk.—Before a banking house will advance money in aid of a project, or undertake to market securities, it usually will require that an exhaustive examination be made into its condition and prospects. If the finding is satisfactory, and the general industrial, financial and stock-market conditions are favorable, the details of the financing will be worked out in conference. Here the wide experience of the banker and his intimate knowledge of financial affairs make his judgment final as to the form of security to be offered, the amount to be issued, and the price. If the financial market is undergoing a depression and there is already a surfeit of new capital issues awaiting the demands of investors, a new proposition will receive little consideration, or will be deferred indefinitely; and it is the ability of the banker thus to sense market conditions which protects his house and its clientele. Every banking house has among its customers, investors who rely absolutely upon its advice in the matter of investments. Some can always be counted upon to take an interest in any new security which is thus recommended. When, therefore, a new project is of sufficient promise to induce the bank to handle its securities, its chances of success are good.

Profits of Financing.—The charge of the banker for this service will vary with the circumstances of each issue, ranging from two and a half per cent. if the securities are merely placed, to ten per cent. if their sale is guaranteed. Not infrequently a bonus is also exacted in the form of shares or junior bonds. The first mortgage bonds are sold; but as the other securities usually have little immediate

value, they are held until with the development of business the revenues of the new company warrant a return upon its inferior securities. This furnishes the banker's opportunity. With the control which his ownership of the securities affords, he can determine the time and the amount of the division of profits. It is therefore an easy matter for him to unload his holdings at a figure which will allow a return for his expert counsel, his position of advantage in financial circles, and the risk attending the advancement of funds by his customers.

It is a matter of great convenience for a railroad which is bidding for capital to obtain it in bulk through the sale of an entire issue of securities to a single buyer. It is important, furthermore, to have the assurance that the funds will be forthcoming at the time they are needed, regardless of the fluctuating conditions of the market. It is customary, therefore, to obtain an agreement which will insure this end. This practice is known as "underwriting."

What is Underwriting?—The term "underwrite" implies the assumption of a risk, and as employed in finance it signifies the insuring or guaranteeing of a market for securities. This is a contract under which the banker agrees to take an issue of securities at a specified time and price. The banker disposes of these securities as opportunity offers, suffering the loss if they have to be kept for a long period, or if they must be sold below the purchase price. Where only a few millions are involved a single bank may conduct the underwriting, but when business is offered which is larger than one bank can prudently handle, a syndicate may be formed to divide the risk. The contract with the issuing corporation is first arranged in all its details. The bank now appears as syndicate manager; but two or more banks often act as joint managers.

The Underwriting Syndicate.—The underwriting syndicate as we know it was first employed in this country in

1871 in connection with the sale of United States bonds by Jay Cooke, who had made a study of the working of the French *syndicats* while negotiating for the sale of Northern Pacific bonds in Europe.[8] Its use in England appears to date from about the same time; for in 1873 the London *Economist* called attention to the frequent references, "of late years" to syndicates, especially in connection with the marketing of new securities. It also gave this definition: "An association of persons who guarantee the subscription of the issue either wholly or partially, each guarantor usually accepting the responsibility for so much to the actual contractors."[9]

Preliminary to the organization of a syndicate, the manager will send out notices to other banks and to individuals well known to them, describing the nature of the undertaking and inviting participation; or, as is more often the case, giving notice that certain allotments of securities have been reserved. Participation in a syndicate is a privilege which is granted only to those whose influence will serve to widen the market for the securities, or whose good will as large purchasers of securities it is advantageous to get and retain. It is obvious that a well distributed underwriting is a source of strength in marketing securities, because each participant may be counted upon to do everything possible to create a demand and dispose of the issues to its clientele. Upon acceptance of an interest in the venture the formal agreement is sent to each participant or underwriter for his signature. Usually there is little hesitation over the matter of acceptance if a strong house has undertaken to underwrite, for to decline an allotment would remove one's name from the list which will be used in organizing future syndicates.

Underwriting originally took the form of an obligation on the part of participants to take within a specified time

[8] Oberholtzer, "Jay Cooke," II, 275. [9] *Economist*, XXXI, 994.

and at a specified price such securities as had not been disposed of by the manager, in proportion to the several amounts underwritten. In 1903 the Pennsylvania railroad announced an increase in its share capital of from $251,000,000 to $400,000,000. When the outstanding shares were quoted at 143, the directors offered to shareholders the privilege of subscribing to $75,000,000 of the new issue at 120. At that time it was not thought desirable to secure an underwriting. But the old shares having fallen to 125, and the full quota of shareholders' subscriptions not having been obtained, it was necessary to resort to bankers, who guaranteed subscriptions to all the shares at 120 in consideration of a commission of two and a half per cent. on the entire issue. The announcement of this agreement had the effect of causing the shareholders to accept their privilege. The advantage to the company is shown by the fact that within the year Pennsylvania shares were sold as low as 111.

The Union Pacific in 1907 offered $75,000,000 of four per cent. convertible bonds at 90 to shareholders at the rate of one bond for forty shares. In order to insure the success of the issue, an underwriting syndicate was formed which guaranteed the placing of the bonds in return for a fee of $1,875,000, of which $375,000 went to Kuhn, Loeb, and company as syndicate managers. Almost immediately a decline in Union Pacific set in, and before the subscription date the new bonds were quoted below the price at which they had been offered to the shareholders, finally reaching a fraction above 78. Only $2,000,000 of the bonds were taken by the shareholders; and while the company received its money, the syndicate was compelled to take over almost the entire issue. The Atchison, Topeka, and Santa Fé, in order to provide funds for improvements, invited its shareholders in 1907 to take at par $26,000,000 of five per cent. convertible bonds to the extent of twelve

per cent. of their holdings. No underwriting of any kind was provided. As the market fell these bonds were quoted below 90, and less than $9,000,000 were disposed of at that time.

The Holding Syndicate.—According to this method of underwriting there need be no advance of cash in case the entire issue is disposed of, and each participant would receive a commission of from two and a half to five per cent. upon his maximum risk. But frequently some time must elapse after the agreement is entered into before it is considered expedient to offer the securities for sale. In such a case a purchasing syndicate is formed, and the securities are distributed among the participants of the purchasing syndicate as soon as they are delivered. By this method the money required to finance the enterprise must first be advanced by the purchasing syndicate, and as the sale progresses the allotments of securities are called back by the manager, who returns the amount advanced by the purchasing syndicate. Should the term of syndicate holding expire before a market is found for all of the securities, the underwriters are left with the balance upon their hands, of which they may dispose.

The syndicate managers will arrange a loan from some bank or trust company for such sum or sums of money as may be needed to control the properties or make advances for construction and operation during the period covered by the underwriting, the issues underwritten being used as collateral for the loan. As sales of securities are made, or when the underwriting expires and the syndicate subscribers take over the unsold balance of securities, the syndicate loan will be paid and the securities held as collateral released. The transaction may be carried through on practically the same lines before the corporation issues the securities by means of participation certificates. If the underwriting results as favorably as is expected no capital

is required, and the arrangement is simply the establishment of a friendly relation with a bank which permits the borrowing of large sums of money on favorable terms.

Individual Withdrawals.—Sometimes the members of a syndicate are permitted to withdraw for their own use securities to the amount for which they are responsible, thereby relinquishing their share of the profits upon the underwriting but obtaining investment securities at a lower price than would otherwise be possible. During the sale, however, every effort is made to keep the issue off the "street," and to this end syndicate managers usually reserve the right to buy back for the syndicate any securities which may come into the market up to a certain limit. This is done to prevent a break in prices on account of reselling by those who, either because of impatience over delay in waiting for a favorable market, financial necessity, or altered opinion as to the investment value of the new securities, may throw over their holdings to prevent individual loss. After the expiration of the agreement to hold, reselling affords a test of the standing of the securities upon the market.

Sales of Underwritten Securities.—Underwritten securities may be offered directly for public subscription, or they may be disposed of at private sale. In most cases both methods are employed. A public offering is advertised several weeks in advance, and bids are invited subject to the provision that the manager may reject any or all applications or allot a smaller amount than is bid for. In the Pennsylvania first mortgage bond issue of 1908, the securities were oversubscribed many times, and applicants for small allotments got nothing, while large bidders received only a small portion of the amounts which they sought. In the case of such an amply secured issue of bonds by a well known corporation like the Pennsylvania, this method is often the most satisfactory, but few railroads have the un-

encumbered property to furnish such an attractive security, and still fewer possess the general credit that is enjoyed by this company. To dispose of many issues, therefore, it is necessary to enlist the services of traveling salesmen, who seek to place the securities with the particular classes of investors to which they are best adapted. Thus one variety of bonds will be of the sort which is suitable for estates and trust funds; others will be adapted to the needs of national banks; still others, to savings institutions. Certain states allow domestic corporations to assure the tax upon their securities, thus exempting those in the hands of investors; the salesmen will endeavor to place the securities thus favored among investors and institutions which may profit from the exemption. Usually non-participating bankers are allowed a commission of about one-fourth of one per cent. upon all securities which they dispose of, as are the members of the syndicate when acting as selling agents. When two or more houses work together as managers, one may remain inactive, or there may be a division of territory. The general public is reached through the medium of advertisements in periodicals and circulars setting forth the nature of the securities and inviting correspondence with a view to subscription.

Possibilities of Loss.—For their services as syndicate managers, the banks charge a commission on par of securities purchased by the syndicate. Sometimes this charge is split so that one-half is figured upon the purchase and one-half upon the sale. The effect of this arrangement is to allow a rebate to participants upon whatever securities remain unsold. Syndicates have made large profits, especially in the late nineties, and in the period of speculative activity which came to an end in the early months of 1907. At that time, many snydicates were dissolved at a loss, and the participants were left with large amounts of securities for which there was no immediate market. This

emphasizes the element of risk, and shows that the large syndicate profits which are made in periods of active demand for securities may be considerably reduced by operations in times when demand is suddenly withdrawn and the underwriters are forced to sell at a loss.

Influence of the Great House.—Railroads have extended so widely over the country that there is now greater need for the improvement and extension of existing lines than for the undertaking of new enterprises. Control of railroad systems, moreover, has passed into the hands of a comparatively few capitalists, whose affiliated banks exert their influence to discourage new projects which threaten to compete either for traffic or for construction funds. So, while projects for the building, by independent interests, of small roads are still frequently laid before the banking houses of the country, few bankers care to risk antagonizing the great financial powers from whom they may some day need to ask for accommodation.

Conspicuous Independent Operations.—In a few instances railroad promoters, whether from necessity or choice, have been able to finance their enterprises without the aid of Wall Street, but such cases are so rare as to be conspicuous. When, a generation ago, James J. Hill appealed to New York capitalists for funds with which to build a new transcontinental railroad through the Northwest, his proposition was dismissed with abruptness, and with some ridicule. He thereupon obtained capital in Amsterdam, and soon formed a connection with the bank of Montreal, which bought control from the Dutch bankers. With this aid he was able to build the Great Northern railway, and to establish himself in a dominant position in the territory served by that line. David H. Moffat, the Denver capitalist who projected the Denver, Northwestern, and Pacific between Denver and Salt Lake, was unable to obtain New York capital for his enterprise in face of the opposi-

tion of the Denver and Rio Grande and Union Pacific interests, represented by Gould and Harriman. He went ahead, however, on his own funds, supplemented by the proceeds of a small amount of bonds which he was able to sell to European bankers. In 1907 he was forced to call in more outside aid, but, following his death, receivers took charge of the road and also of the holding company, the Denver Railway Securities company. Henry H. Rogers, from motives of choice, attempted to finance his Tidewater-Deepwater (now Virginian) railway enterprise in Virginia without recourse to the banks. With the stringency of the money market in 1907, he was embarrassed to the extent that he found it necessary to organize a construction company, which issued short term notes at a high rate of interest.

THE NATURE OF THE FINANCIAL SUPPORT OBTAINED

In General.—The different kinds of financial support which have been attracted to railroad enterprises are of three broad classes: subsidies, funds contributed by investors, and funds contributed by speculators. Subsidies have been granted in various forms by individuals, by local and state governments, and by the national government. Investors in railroad securities have not always been individuals; during the early period many a local and state government advanced capital not alone to give needed support to a much needed transportation project but on the theory that it would acquire a right to participate directly in the profits of a lucrative business when the railroad should be constructed and in operation. Generally speaking, investors are of two classes: those who have put their money into local projects with which they are personally familiar, and those who have taken shares or bonds representing properties which have been investigated or are represented by financial agencies. Speculation has contributed a large share. The capital which has found its

way into the market through speculative channels has not come from any particular class of individuals. There have always been professionals who have purchased securities with the idea of unloading on a rising market, and there have always been victims of the exaggerated representations of promoters.

Individual Subsidies.—Individual subsidies have been given in the form of subscriptions to cover the expense of surveys, releases of rights of way, and donations of land, stone, gravel, timber, and other materials. Many individual subscriptions were nothing but subsidies. Such were the subscriptions made in response to appeals upon the basis of public benefit rather than private profit; such also were the subscriptions of merchants whose desire was for larger and more active business, and the subscriptions of farmers who were attracted by the prospect of higher prices for their products and easier access to market. These subscriptions were paid not only in money but also in land, labor, and materials, and by notes secured by farm mortgages.

Local Subsidies.—Local subsidies have been granted in all sections of the country to an extent which is practically impossible of determination. All communities wished to share in the business prosperity which followed the opening of new railroad connections, and cities and towns needed little urging upon the part of promoters to induce them to become financially interested in their projects. They have endorsed the bonds of railroad companies, and exchanged their bonds for bonds of railroad companies and for railroad shares. Local subsidies have also been given in the form of donations of money, bonds, and lands. Throughout the West it was once the common practice to donate land for station sites and yards.

State Subsidies.—States, also, have given generous support to railroads. Maryland was heavily interested in the

Baltimore and Ohio, New York in the New York and Erie, and Massachusetts in the Western railroad. Virginia early adopted the policy of taking three-fifths of the share capital of all railroads within its borders, and Louisiana similarly subscribed to the extent of one-fifth. For a short time Ohio subscribed to one share for every other subscription for twice that amount to the share capital of railroads within the state. Few Northern states, however, gave aid in the form of share subscriptions. The loan of credit was the most widely used form of state subsidy in all parts of the country. Massachusetts authorized loans to the amount of over $11,000,000 to eight railroads; New York, of over $8,000,000 to nine railroads. During the reconstruction period in the South, legislatures voted away the credit of their states to an extent which ultimately gave but little range for choice between repudiation and insolvency. States have also guaranteed city bonds issued in aid of railroads; they have advanced loans out of special funds and out of the general treasury. Some of these loans bore no interest. Other forms of state aid were: direct appropriations to pay the expense of surveys, interest payments on railroad bonds, surrendered claims, and grants of land. Texas, which retained its public lands upon annexation to the United States, granted over 32,000,000 acres to railroads and internal improvements, chiefly railroads. Most of the state constitutions now forbid any loan of state credit, and many of them forbid state subscriptions to the shares of corporations. Over half, also, forbid local aid of any sort.

National Subsidies.—National aid to railroads began with a provision in the tariff of 1830 for a drawback upon duties paid upon imported railroad iron; and from 1832 to 1842 complete exemption was allowed upon rails. In this way the railroads had profited to the extent of nearly $6,000,000 by 1843 when the system was abolished. Beginning in

1835 congress granted to certain railroads rights of way through the public lands, and in 1853 the privilege was made general. In 1850 congress granted lands to Illinois, Alabama, and Mississippi, to encourage the construction of a line of railroad from Mobile to Cairo and from Cairo to Chicago and Galena. The Mobile and Ohio and the Illinois Central were the final recipients of this bounty. With the act of 1850 began the system of congressional land grants to railroads through the medium of the states as trustees or agents of the transfer. As the railroads extended out into the territories, they received grants of land directly from congress. Altogether there were seventy-nine land grant railroads, and the lands within the limits of the original grants amounted to nearly 200,000,000 acres. This total has been reduced by forfeitures to less than 160,000,000 acres, title to nearly 110,000,000 acres of which has been established. The Northern Pacific alone received an acreage of about 44,000,000; an amount equal to the combined grants of the Union Pacific, Central Pacific, and Southern Pacific. The Atchison system received 17,000,000 acres; the Illinois Central, over 2,500,000 acres; and the Mobile and Ohio, over 1,000,000 acres.

Loans of Credit.—Congress also granted direct financial aid by loaning $64,623,512 to six railroads to encourage the construction of a through line to the Pacific. The Pacific railroad acts of 1862 and 1864, besides granting large tracts of lands from the public domain, provided that thirty-year United States bonds be delivered as sections of the line should be completed. These bonds were secured by mortgage upon the railroad property. In accordance with these laws, $27,236,512 was received by the Union Pacific, $25,885,120 by the Central Pacific, $6,303,000 by the Kansas Pacific, $1,970,560 by the Western Pacific, $1,628,320 by the Sioux City and Pacific, and $1,600,000 by the Central Branch Union Pacific.

CHAPTER III

CAPITALIZATION: ORIGINAL AND SUPPLEMENTARY

Need for Exact Definition of "Capital."—If one should ask a merchant, a manufacturer, or a banker how much capital he had when he began business, there would be no uncertainty as to what was meant by the question. Nor would there be any difficulty in understanding what was meant if one were to inquire as to the amount of capital now invested in the business. But when we come to consider the subject of corporate capitalization, we are confronted immediately with a confusion of terms; every one who undertakes to contribute to the discussion gives to the word "capital" such meaning as may best serve his purpose. An attempt was recently made to ascertain what ideas of capital were entertained by the students in a course on corporation finance in a well known graduate school of business administration. With a balance sheet of about thirty items before them, one member or another of the class identified as capital items, the entire list of assets and liabilities with the exception of "short term notes." This, no one could reconcile with his notion of capital. The result of the test is noteworthy as showing a general lack of definiteness of concept among economists and among students who have received their instruction from economists. So long as there is so much confusion in matters of definition, there can be little exact thinking about the subject.

Confusion of Ideas.—A concrete illustration of the utter disregard for any well defined concept of capital may be found in almost any railroad balance sheet. If the question were asked as to what items represent the capital of the corporation, it would be impossible to answer from

the evidence available. It is probable that most persons would look to the liability side of the account, and specifically to the item "capital stock;" some might add the "funded debt"; others might go still further and include the surplus. A few would probably confine their attention to the assets side of the account, and attempt to determine what specific resources represent the capital investment. These several points of view would necessarily create nothing but confusion in any general discussion as to what was the original or present capitalization; whether the concern is adequately capitalized or over-capitalized; whether the invested capital is amply protected; whether dividends have been declared out of capital; whether dividends represent fair return to the shareholders; or as to any other question relating to the capital of the corporation. Many of these assumptions do violence to any well considered view of the purpose and function of capital. To conceive of capital as a liability does not admit of the consideration of many of the commonest capital relations—it affords no basis for either investment or administrative judgment. Yet this is no reason why information about capital may not be found on the liability side as well as the asset side of the balance sheet.

A Definition Submitted.—To be consistent and logical in the assembling and classification of the data and experience of business, it is submitted that capital must be considered as a resource; that the capital of a railroad or other corporation must be considered as included in the general category of "assets." Using the terms in the sense commonly accepted by persons whose business is not incorporated and by the courts in the interpretation of the law of corporations, it would be confined to those assets of the corporation which have been provided and which are intended for continuing, productive use. This is the sense in which

it is used throughout this work, whether the discussion relates to original acquisition of capital or to management of capital. But for the purpose of obtaining and representing facts about capital it is assumed that liability accounts as well as asset accounts may be used: asset accounts to tell the story of the results of capital expenditure and pertaining to the result of administration of properties; liability accounts to tell the story of the methods of financing and of the issue and retirement of obligations entered into to obtain capital.

Capital as an Instrument of a Going Concern.—Accepting the definition that capital is the assets of the corporation which have been contributed for continuing use, a number of questions are constantly before those interested pertaining to these assets. What amount has been contributed for capital use? What properties have been acquired and what are now possessed which may serve the continuing uses of the company as a going concern? What is the relation of such properties to the amount of capital contributed? What is the difference to be accounted for?

If we are to know what properties the company owns that may be continuously used, we must eliminate from the list of assets, all things acquired or possessed which are intended for consumption, and all which in the regular course of business are intended for conversion or sale at a profit. But cash in hand obtained from the sale of shares or credit obligations must be considered as capital; also the property purchased with those funds. A working fund, whether provided by shareholders or set aside by the board of directors out of the proceeds of sales of shares or of bonds, is capital. Any application of money funds or credit funds to the acquisition of resources intended for continuous, productive use is an act of capitalization and an appropriation of funds to capital purposes. The

fact that bad judgment may have been used in the choice of investments in capitalization is an essential element in the consideration of financial management, but it cannot alter the nature of assets.

Accepting as a criterion the economic and institutional purpose of assets acquired or in possession, it follows that any classification of resources which distinguishes capital assets from assets which are not intended for capital use must relate to a going concern. Strictly speaking, a corporation which is about to close up its affairs, or to become permanently non-operative would not be considered as having a capital. It may have properties, and it may have obligations which were incurred in the acquisition of capital; but in any statement of financial condition of such a defunct or moribund institution, there would be no need to distinguish between those properties which were acquired for capital use and those which were not. The purpose of such a statement would be to show the realization value of all the property, and the amount of the claims against it, and to enable the shareholders to determine whether the balance available for final distribution would be sufficient to represent their original investment.

Classification and Valuation of Capital Assets.—It may be assumed that the only purpose of classification of assets is to enable investors and the management to think intelligently about the business of the corporation and about its financial condition as a going concern. The object of capitalization being to obtain resources needed for productive use, it is desirable to have these resources stated in their productive relation; to show what obligations have been incurred for capital and what in due course of current business. This will enable the manager and the investor to ascertain how the capital funds have been invested, and whether the investment has been impaired. The business purpose of acquiring assets other than capital being one

of realization or conversion into cash, it is desirable to have these resources stated at their cash and estimated realization value, and to state them so that the net results of operation may be ascertained at a glance. In estimating the value of capital assets, the purpose is to determine the amount of the investment represented. The proper basis for the valuation of the things to be continuously used for productive purposes would be original cost with adequate allowance for depreciation; otherwise, there can be no means of determining whether the capital has been wisely invested and adequately protected. As to all assets other than capital resources, it would seem that they should be appraised at their realization value.

Classification of Capital Liabilities.—Capital liabilities are those incurred in obtaining capital funds and property. Good judgment might suggest that the corporation should not enter into credit contracts for funds or properties to be continuously used for productive purposes, as under such an arrangement embarrassing demands for payment may be made. Nevertheless, failure or refusal to regard such obligations as capital liabilities will not aid the investor or the management in determining the real financial condition. For this reason the capital obligations or liabilities of a corporation are to be considered under four general heads: (1) capital shares; (2) credit obligations; (3) lease contracts; and (4) surplus appropriated for capital use.

Practical Considerations in Original Capitalization.—Among the important considerations in original capitalization, two pertain to capital assets and two to capital liabilities. Those pertaining to capital assets are (1) the character of capital resources which will be needed; and (2) the amount of funds which will be required to obtain those resources. Those pertaining to capital liabilities are (1) the future advantage or disadvantage to the corpora-

tion of incurring or "issuing" one or another kind of contract or obligation in procuring the funds or other capital resources required, assuming that a favorable investment market may be found; and (2) the present ability of the corporation to sell or exchange one or another class of obligations—shares, bonds, debentures, short term notes, etc. In determining the character of issues or obligations entered into in obtaining capital, considerations as to the future advantage to the corporation have usually been subordinated to the interests of promoters. The condition of the market or the immediate possibility of acquiring funds and properties and the margin of profit available to promoters have been the factors which have only too frequently determined whether one or another class of securities should be issued.

The Corporation's Interest in the Choice of Capital Issues.—The form of contract or obligation incurred for capital which is best suited to the interests of the corporation is the capital share. A certificate to a shareholder is an evidence of proprietary right to participate in the benefits of the trust estate, the legal title to which is held by the corporation. There is no obligation upon the part of the corporation to pay any amount at any time. There is no contract for the return of capital contributed so long as it is needed by the corporation, and no obligation even to pay dividends except as they may be declared by the board of directors. The directors could not return the capital except after formal notice and by following legally prescribed procedure for the reduction of capital; they may not declare dividends except out of unappropriated surplus.

Advantage of Issue of Shares.—The advantage to the corporation of this kind of contract is at once apparent. The period during which capital will be needed is the life of the corporation; the obligation to the shareholder to return his capital does not mature until the affairs of the corpora-

tion are wound up. The ability of the corporation to serve the public depends upon the adequacy and uninterrupted use of its capital—whether this be in the form of property, equipment, or working funds. The right of the shareholder to distribution of surplus is conditioned upon the judgment of the directors as to the capital needs of the corporation. The immediate cause of financial difficulties of any corporation is inability to meet contracts to pay money when due; the contract to pay the shareholder never becomes due except by act of the directors of the corporation itself, and even the directors may be restrained if it appears that such act will lead to financial embarrassment.

Preferred Rights and Privileges to Shareholders.—As a means of facilitating the obtaining of capital, preferred rights or privileges may be given to shareholders. In the case of initial capitalization, preferences may be given (1) when the promoter arranges to take his profits in obligations of the corporation; and (2) when construction or equipment is begun upon insufficient capital. The promoter may arrange to have his interest represented in common shares, giving precedence to those who contribute additional capital; the original shareholders, being unable or unwilling to furnish the full amount of capital necessary to complete the work of construction and equipment, may offer special inducements to others. Although there is no limit to the variety of preferments which may be offered, there may be said to be three general classes, (1) preferment as to dividend; (2) preferment as to return of capital upon dissolution; and (3) preferment as to voting at shareholders' meetings. To any or all of these classes of shares there may be granted in addition, certain privileges as to the conversion of shares into bonds, or as to the subscription to additional issues of shares or convertible bonds at lower prices than are available to outsiders. But notwithstanding all the preferment which

may be enjoyed by the shareholders, the share as a form of capital liability is more desirable from the standpoint of the future welfare of the corporation than any other form of capital obligation which may be issued. It may not be most favorable to the immediate profit of the promoter; it may not be most favorable to the interest of the shareholders themselves; but there can be no question as to its advantage to the corporation.

Obligations to Creditors.—The obligations and the preferments enjoyed by bondholders and other creditors are of a quite different nature. There is a fundamental distinction between contracts with creditors and those with shareholders. Credit issues are in the nature of conditional contracts for the future payment of money. These contracts or rights to future payment are sold by the corporation through its agents. The disadvantage to the corporation of this method of financing capital requirements lies in the right of the creditor to require that there shall be available a sufficient amount of money to meet each credit obligation when due even at the sacrifice of all the assets of the corporation. This method having been once adopted, however, a certain element of protection is to be found in the length of time agreed upon before the funds contributed must be returned and in the conditions attached to the current payment of interest.

Long and Short Term Credit Obligations.—Credit liabilities for ten, twenty, or fifty-year terms sold or exchanged for capital funds or properties, while terminable and requiring delivery of the promised amounts when due, give the directors ample time to arrange for refunding—the only immediate demands being for interest payments. Default upon this part of the obligation usually causes the principal also to fall due and threatens the stability of the whole enterprise. Large amounts of capital have been acquired through the issue of short term notes and even

demand notes. This is a method involving grave danger, however, even after a corporation has acquired its physical plant. The danger is still greater in the case of a corporation seeking to provide for original capital needs.

Contracts with Lessors.—Under a lease contract one corporation may obtain the right to use the property of another and to surrender it at the end of a specified period. The lease may require no payment of money except current rentals, or it may require the prepayment of rentals for a term of years. In the first case no initial capital funds are required; in the second a large amount of capital may be required, but such prepayment is in the nature of an advance out of capital which reduces instead of increases the future need for funds with which to meet current expenses. In any event, when capital is borrowed or leased, a smaller amount of capital funds is required than would have been needed to purchase the property outright. Aside from the element of protection against insolvency, the future advantage to the lessee corporation is to be measured in terms of the relation of the current rental charge to the charge which would have been made for interest if the corporation had obtained adequate funds for the purchase of the property outright. A further advantage may accrue from the right to use properties and operate or share in the benefit of use of the same under a franchise which gives a right or facility which might not be enjoyed otherwise, as in the case of the rental by a railroad corporation of terminal facilities which could not be purchased.

Appropriations Out of Surplus for Capital Use.—Appropriations to capital out of surplus may be made ordinarily only by an established concern. The only circumstance in which this method may be employed in original capitalization is when a surplus has been created by contributions of shareholders—something almost unheard of

in railroad finance. But according to our definition of capital, there can be only an apparent surplus in such a case. It is only by reason of the practice of stating the share liability at par value that an amount contributed in excess of the aggregate of par value of shares issued is carried to surplus account. When the original contribution of shareholders is inadequate and additional shares are issued at a premium, the amount of the premium may be appropriated to such use, or it may be set aside as a reserve for amortization or as a sinking fund. Any such appropriation would be a capital use and one to the future advantage of the corporation, as it can carry with it no obligation for repayment and may serve to reduce other obligations which might otherwise financially embarrass the corporation.

The Market for Original Shares.—The market for the shares issued by a new railroad corporation has usually been found in the communities desirous of obtaining better or additional transportation facilities. This was the case particularly in New England, where many of the early railroads were able to dispose of sufficient shares in their own territory to provide for original capital needs without resorting to the issue of bonds. When the contributions of private capital were found inadequate, they were often supplemented by subscriptions to shares by state or local governments. In some instances it has been possible to dispose of subscription shares in the financial markets; but, generally speaking, the market for shares issued as a means of providing initial capitalization is either local or personal. Such a market is best approached through appeal to other interests than those of investment. Therefore, while the share is the form of capital obligation most favorable to the interests of the corporation, it is the most difficult to issue in sufficient amounts to provide fully for capital needs. It was in recognition of this

fact that government subsidies in the form of subscriptions to shares were sought and obtained, particularly in those parts of the country where the local supply of capital was small.

The Market for Bonds.—An issue of bonds is primarily an appeal to the investor. There is practically no limit to the amount of capital which may be obtained in this manner if the bond itself be made sufficiently attractive. The bond must appeal to the investor solely as an investment, and not as a means of benefiting any local interests; its security as to both interest and principal must be ample; it must provide for a rate of return equal to other well secured, long time credit contracts; and it must make ample provision for caring for the mortgaged property as a trust in case of default. In other words, the features of the contract which make the bond most attractive to investors are those which make it least favorable to the interest of the corporation by which it is used as an instrument of capitalization. Assuming a partial capitalization by sales of shares to individuals or to a subsidizing government, and assuming unencumbered resources sufficient to give adequate security, the bond is the most marketable of all contracts which may be offered. At times also, the issue of bonds is most favorable to the interest of both the promoter and the shareholders. Having arranged for local support in the form of individual subscriptions to shares and government subsidies, and having arranged with the new corporation for the transfer of subsidies, franchises, and rights for cash or securities, it may be to the highest advantage of the promoter to have the corporation sell as many bonds as possible, even at a reasonable discount. And the shareholders, also, may find it to their advantage to have the corporation borrow at a low rate of interest, and so leave a larger margin of surplus which may be distributed in the form of dividends.

CAPITALIZATION

Forms in Which Capital May Be Obtained.—The usual form in which capital is obtained is cash. This is most desirable, as it provides funds out of which property may be purchased and payments made to the greatest advantage. It is a mistake, however, to assume that this is the only form in which capital is obtained directly from the shareholders and creditors. A corporation may be organized to take over the entire capital funds and properties of one or several corporations or individuals. In such case the capital assets will be already in the form needed for carrying on the business, and the obligations issued therefor may be shares or bonds or both. Similarly, the corporation may arrange with contractors to exchange its securities for construction work and equipment. It may also obtain these properties in exchange for short term credit obligations, the vendors relying upon the ability of the company to provide for payment out of the proceeds of sales of securities issued as sections of the work are completed and turned over for operation. Practically every kind of property and service which might be utilized by railroads for productive use has been received in exchange for capital obligations.

Inadequacy of Initial Capitalization of American Railroads.—One of the most significant facts in the financial history of American railroads is that in most instances their original capitalization has been insufficient. This has been due chiefly to two causes, (1) inability to foresee the rapid increase of the demand for transportation services and consequent failure to provide for sufficient capital; (2) lack of available investment capital in localities most in need of transportation facilities. The result of this inadequacy of capitalization has been to interfere with the efficiency of management, and to invite insolvency and consequent reorganization upon a broader financial basis. Few railroads have escaped the difficul-

ties incident to capital weakness, and the fortunate ones have done so by constantly building up their resources through new issues of securities, favorable leases, and appropriations to capital out of surplus.

Issue of Additional Securities.—The issue of new capital shares is a matter to be decided by vote of the shareholders, but in many states, particularly in the West, bonds may be issued without the consent or even the knowledge of the shareholders. New capital is issued for the building of extensions, for the purchase of additional equipment, for betterments, and for various other corporate purposes. Whenever money is plentiful and rates of interest low, a railroad will usually attempt to issue long term bonds. Sometimes, in order that the bonds may be more attractive, they are made convertible into shares, thus affording their holders opportunity to share to the fullest extent in the profits accruing from the use of a larger capital. The question as to whether bonds or shares shall be issued, therefore, is one which can be decided only with reference to all conditions affecting the financial market.

Privileged Subscriptions.—When a railroad decides to increase its capital, as has been already shown, preference is usually given to the shareholders in the matter of subscribing for the new shares or bonds. Rights to privileged subscription may be granted whether the new securities are convertible bonds or shares. The usual custom when the shares of a railroad are quoted well above par, is to offer each shareholder the privilege of taking his proportion of new shares at par or at a price considerably below the figure at which the old shares are quoted upon the market. If any of the shareholders do not care to increase their holdings, they may sell their "rights." Thus, in either event, they profit from the new issue. The subscriptions are in every case payable in installments, and it is customary to pay interest upon the subscription

money until the whole amount is assessed, when the new shares are placed in the dividend account upon the same footing as the old. Privileges, by affording opportunity for profit, tend to create a ready market for shares, and to retain the same shareholders in the corporation, thereby insuring stability and conservatism.[1]

The privileged subscription is not new in railroad finance. As early as 1840 the New York and New Haven, having failed to sell enough bonds to retire its floating debt, offered shareholders the privilege of subscribing at less than market price to their proportion of 4000 shares which had been forfeited. The Boston and Lowell in 1870 offered to each holder of three shares the privilege of taking at par one new share. Scores of recent cases could be cited. The Northern Pacific in 1906 issued $93,000,000 of new shares, allowing shareholders of record to take at par, new shares to the amount of sixty per cent. of their holdings. The Chicago and North Western in 1907 issued $25,000,000 of new share capital to shareholders at par to the extent of twenty-five per cent. of their holdings. In 1907 the Union Pacific offered $75,000,000 of four per cent. twenty-year convertible bonds "divisible among the stockholders at the rate of one bond for each forty shares of stock . . . at ninety per cent. of their par value." The Atchison the same year offered to shareholders at par, $26,000,000 of ten-year convertible five per cent. bonds to an amount equal to twelve per cent. of their holdings of shares; and in 1909 this company offered its shareholders the privilege of subscribing at 104 to an amount of long-term four per cent. convertible bonds equal to twelve per cent. of their holdings.

Short Term Notes.—When funds cannot be obtained

[1] Burgunder, "The Declaration and Yield of Stockholders' Rights," Amer. Acad. of Pol. and Soc. Sci., *Annals*, XXXV, 554-78; Mitchell, "Stockholders' Profits from Privileged Subscriptions," *Quar. Jour. of Econ.*, XIX, 230-69.

from the sale of new shares and bonds, the only alternative is to borrow money in the open market. As at such times interest rates are excessive, the loans are made for only a few years; hence the term "short-term notes." The issue of short-term notes may usually be taken as evidence of the fact that the bankers are loaded up with securities which have failed to attract the investing public. As they add to the amount of floating debt, and as floating debt is the usual accompaniment of insolvency, these notes have heretofore been regarded as indicating a tendency toward a financial breakdown. This they proved to be in 1872, and again in 1892, but in 1903 they served to tide over a crisis. Their use is not necessarily equivalent to a confession of financial weakness in a railroad itself, but an indication that capital has fallen temporarily behind the demand. In 1903 and 1904 upwards of $200,000,000 of short-term notes were put out by fourteen American railroads, at rates ranging from four and one-half to five per cent and for terms ranging from ten to fifteen years. All which have fallen due have been provided for, though receivership has not been averted in all cases. The first half of 1907 saw a recurrence of conditions necessitating the payment of high rates for capital. In consequence, over $300,000,000 of short-term notes were issued, $60,000,000 of which were put out by the Pennsylvania alone. These issues were sold by bankers, who bought them at prices ranging from ninety-seven to par. As most of them bore five per cent. interest, the cost of the money to the companies was about seven per cent. The Erie, however, issued notes which bore six per cent. Unlike all the other issues, these notes were discounted on an eight per cent. basis in much the same manner that ordinary commercial paper is discounted.

Short-term notes may be secured by collateral, as in the

case of the Pennsylvania issue, or they may have behind them only the earning power and credit of the corporation. In the latter case, they rank between income bonds and preferred shares as claimants upon the assets. Most notes are issued in denominations of $1000, but the Pennsylvania notes already referred to were issued in denominations of $5000, and the New York, New Haven, and Hartford notes, in denominations ranging from $5000 to $50,000. Many of the notes of 1907 were issued for the purpose of extending those put out in 1903 and 1904, but unlike the notes of that period none were to run for more than five years. A novel method of short-term borrowing was adopted by the Atchison in 1902. Instead of issuing notes of the usual sort, $30,000,000 of five per cent. serial debentures were put out in twelve series, one of which is to mature each year to 1915. These debentures are absolute obligations of the company as to principal and interest, but they are unsecured. In issuing them, however, the corporation agreed that it would not execute any new mortgage without including within its terms all of the debentures which might be outstanding.

CHAPTER IV

FINANCES OF CONSTRUCTION

Definition.—Construction may be considered as the building of all the fixed properties used by a railroad in conducting the business of transportation. It pertains, therefore, to the roadway and structures as distinguished from rolling stock and other equipment. In its fullest sense it comprehends grading, tunneling, construction of bridges, trestles and culverts; purchase and laying of ties, rails, and other parts of the roadway including ballast; building and equipping of stations and office buildings, shops, and engine-houses, as well as water front structures and power plants. It also includes engineering, supervision, and inspection, and the acquiring of fee title to lands and right of way. Cost of construction may be understood as made up of outlays for building operations, plus interest on outlays during the construction period, less deductions for salvage and for charges for transportation during construction; in other words, the net expense to the railroad corporation.

Construction Financed Through Sales of Shares.—Construction of the early local railroads was generally financed by means of the proceeds of sales of corporate shares. It was the practice to begin with subscriptions to share capital by persons interested in local manufacturing or commercial enterprises or by local investors who had accumulated savings or inherited small estates. These subscriptions were paid in cash; the shareholders as proprietors of the corporation thus held the chief beneficial interest in the properties, and they chose the directors from among their number in much the same manner as officers were chosen at a town meeting. This is particularly true of the New

England railroads. The Eastern railroad of Massachusetts was built as far as the New Hampshire line by 1840, and the cost, amounting to $1,365,000, was met through sales of shares.[1] The Boston and Lowell was also built out of the proceeds of share sales; and no bonds were issued until nearly twenty years after the opening of the road.[2] In central New York, the Syracuse and Utica railroad was built at a cost of $700,000, or $100,000 less than the amount of subscribed share capital.[3] This was the method common to the railroads of the Atlantic seaboard states prior to 1840. Even the Pennsylvania railroad was begun with the idea that sales of shares would provide all the capital needed, but the task proved too great for the available investment funds of Philadelphia, and to prevent unprofitable delays the policy of the company was changed so as to limit the mortgage indebtedness to the amount of the share capital.

Supplementary Bond Issues.—The use of bond issues as a means of raising capital for construction was usually the result of miscalculation. Lack of engineering experience, indefiniteness of plans, estimates based upon the analogy of the turnpike; these were some of the most common causes of exhaustion of funds before completion of the work of construction. There arose, therefore, the problem of supplementary financing. Sometimes it was possible to obtain additional funds through the issuance of new shares, but where the local supply of investment capital made this impossible, there was no alternative but to issue long time obligations secured by mortgage giving to the new contributors prior claim against the corporate estate.

With all the unforeseen demands for additional capital, however, the bonded debt of the first American railroads

1 Annual report, 1875. 2 Annual report, 1853.

3 Wager, "Syracuse and Utica Railroad," Oneida Hist. Soc., *Transactions*, I, 153.

cash until after the introduction of improved methods of transportation. It was therefore impossible to finance railroad construction through cash subscriptions to shares. In recognition of this condition, there was resort to barter, or exchange of the shares of railroad companies for land, labor, and materials. To obtain the money needed, shares were exchanged for farm mortgages and other credit obligations which might be discounted. Thus, while the construction of the Bellefontaine and Indiana and of the Indianapolis and Bellefontaine lines was financed for the most part through the sale of capital shares, subscriptions were paid largely in land, and to some extent in labor and materials.[5] The weakness of this practice is at once apparent. It limited the activities of the management, and frequently caused loss to the farmers, with the result that the railroads were embarrassed through hostile legislative and administrative action.

Share Capital for Roadbed; Bonds for Rails and Equipment.—When promoters were able to procure sufficient local subscriptions to share capital to complete the roadbed, they had a basis for credit which enabled them to dispose of bonds to provide for the rails and equipment. This was the plan followed by many railroads in the South and in the Middle West.[6] It was a natural and almost necessary method in communities where local capital was inadequate, and where subsidies were not available in amounts sufficient to serve as a guarantee to the non-resident investor. The use of bonds as a means of providing for original capitalization almost invariably indicated the presence of outside capital.

Subsidies as Collateral Aids to Capitalization.—Subsidies have played an important part in the financing of construction. Before the railroad period, the lottery was

[5] Cleveland and Powell, "Railroad Promotion," 198-201.
[6] *Ibid.*, 197-8.

in common use as a means of aiding enterprises which were public in their nature. But after the corporation had come into common use as an agency for assembling capital and controlling large enterprises, public sentiment changed; and the lottery privilege was granted in aid of but one or two railroad projects.[7] Popular interest was aroused sufficiently to warrant more substantial aid, and when share subscriptions were inadequate, or when additional evidence of support was desired as a means of attracting outside capital through the sale of bonds, public subsidies in the form of subscriptions to shares or of guarantees of bonds were granted by both state and local governments. There were also public and private subsidies in the form of donations of land for right of way and for yards and station sites, not to mention the larger grants of lands which were to be sold to raise funds for construction work. Perhaps the most important factor in keeping the capital cost of American railroads down to a figure which is low by comparison with the railroads of Europe has been the American practice of donating lands for right of way. Another factor which has contributed to lower capital cost in the United States has been the power given to railroad corporations to obtain rights of way by eminent domain, whereas in England they were compelled to obtain their land by private bargaining.

Bonds Favored by Investors.—Failure to build within estimates, calls for assessments to put in proper condition the inferior work turned over by contractors, and delays in the payment of dividends, eventually led investors to regard railroad shares as of uncertain value, and to put their savings into railroad bonds. Bonds, although they often proved to be in excess of the value of the property, were believed to be adequately secured not only by the

[7] *Ibid.*, 167.

priority of the claim held against the estate, but also by the prospective value of the territory which would be developed by the road. This attitude of mind led to an entirely new system of financing construction, as has been set forth by John P. Davis:

> Railway bonds had much resemblance to government securities; the railways did not appear, at first blush, to be dependent on the efforts of individuals, but rather on the condition of the tributary country, and their income was quite similar to the taxes paid to the government. The investor in railway bonds seemed to be putting his faith not in a Vanderbilt or Gould, but in the manufacturers, farmers, producers, and consumers of the tributary territory upon which the roads depended for their success. The autocratic influence of "railroad managers" had not been appreciably exerted. The disastrous results of competition and "rate wars" had not yet been felt. If a railway could not pay the interest on its bonds, rates could be increased, and if it could pay the interest on its bonds, it could by a little more pressure on the tributary territory be made to pay some interest even on stock and more bonds. Thus the value of railways came to be determined not by the expense of building them, but by the amount of bonds and stock that their tributary territory could carry.[8]

Bonds Sold at Discount; Shares Given as Bonus.—The facility with which public subsidy bonds and bonds of the railroads themselves were sold, suggested to promoters the possibility of building entirely out of the proceeds of bonds, keeping the shares for themselves as a source of future profit. The share capital was subscribed as before, in conformity with the law, but only a nominal cash payment was made to defray the expenses of obtaining the charter and of forming the preliminary organization. The bonds were then sold at ruinous discounts, or exchanged at extravagant prices for construction work, services, and materials. Shares were often given as a bonus to facili-

[8] Davis, "Union Pacific," 197.

tate the placing of the bonds. In the end the promoters had control of the property, which had cost them little or nothing, and this property was mortgaged far in excess of its value. Their control over the share capital made it possible for them to declare unwarranted dividends, and thus to advance prices and so afford themselves opportunity to unload at a profit. The next logical step for the corporation was bankruptcy; and in the process of reorganization the bonds were scaled down or subjected to heavy assessment. Such was the common course of railroad construction after about 1850.

Land Bonds.—Land grant railroads have made every effort to sell their lands to provide funds for construction; but sales have usually been slow until after the completion of the road, and land bonds have been frequently issued instead. Sometimes the lands were included with the other property as part of the security for the first mortgage bonds, as in the case of the Mobile and Ohio.[9] Usually, however, a separate issue of securities was made. Thus the Chicago, St. Paul, and Fond du Lac issued $3,600,000 of land grant bonds,[10] and the Toledo, Wabash, and Western issued $450,000 of "real estate" bonds.[11] The Illinois Central set aside the greater part of its lands as security for the first mortgage bonds, and also reserved a large acreage as security for interest. The report for 1856 shows that while the company had $16,878,000 of bonds outstanding, only $3,258,000 had been paid in on its share capital. Receipts from the sales of lands were sometimes mortgaged, as in the case of the Atchison, Topeka, and Santa Fé, which in 1874 issued "land income" bonds.

Net Earnings Applied to Construction.—With the early New England roads, the construction of which was financed

[9] *Amer. Railroad Jour.*, XXV, 515.
[10] Annual report, 1857.
[11] Annual report, 1856.

by sales of shares, the practice was to use the net earnings from operation of the completed sections to pay dividends. After the introduction of bond construction, however, the practice was changed, the net earnings on the completed portions being generally applied to the property as an offset to cost. Many of the roads at the time they were completed had a large floating debt in the form of contractors' bills, unadjusted claims, and construction notes. These obligations, properly chargeable as part of the cost, in some instances were met by appropriations from earnings; in others they were funded by bond issues. Some of the companies attempted to carry them along without distinguishing between the floating debt incurred for construction and the floating debt incurred in operation.

AGENCIES OF CONSTRUCTION

Construction Directly by the Railroad.—In some instances construction was carried on by the railroad corporation itself as a construction company; as for example the Camden and Amboy, which reserved the work upon some of the more difficult sections of the road in order that they might be more quickly completed.[12] Generally speaking, however, there was resort to contracts. Circumstances have sometimes forced railroads into the work of construction. In the building of the Coal and Coke railway of West Virginia, because of the failure of the contractors, it was necessary for the company to take over one unfinished section of the road and with its own forces carry it to completion.[13]

Early Railroads Built by Small Contractors.—The earliest railroads were built by small contractors, but the results of this method were often unsatisfactory. As soon as the line was completed sufficiently to allow the opera-

[12] *Hazard's Register of Pa.*, VII, 361. [13] Annual report, 1905.

tion of trains, it was surrendered to the company, which had then to make large additional expenditures to place the property in proper condition. After the completion of construction work upon the Boston and Maine, the directors reported: "Most of the work on the road was, at first, done by contract, and, of course, was less perfect than that done by the company. A great deal of the masonry, built by contract, has been rebuilt,—many whole bridges and culverts have been built in a much more substantial and thorough manner than they were at first; and on account of the imperfect manner in which the roadbed was graded and dressed, as originally done, it has become necessary to raise large portions of it from one to two feet; giving it a new dressing of gravel to protect it from frost, and keep the superstructure in surface. . . . The ties . . . used are larger and better than those laid down generally when the road was first built."[14]

Large Contractors and Construction Companies.—At a very early period, construction work was let to large contractors, who would engage to build an entire line, subletting different sections to small contractors. Some of these companies also engaged to supply the equipment. In most instances they received part payment in securities of the road, and often in public subsidy bonds. Contracts on the New York and Erie were let subject to the provision that part payment would be made in shares at the market price.[15] In such instances part of the shares were carried in the treasury until they were issued under the terms of construction contracts. Contractors on the South Western railroad of Georgia received two-thirds of their payment in bonds and one-third in shares at par.[16]

Contract Work Paid for in Securities.—Upon the Greenville and Miami railroad, half of the contractors' bills

[14] Annual report, 1849.

[15] Report of the committee appointed to investigate the New York and Erie, 44-6. (1842.)

[16] Annual report, 1853.

were paid in cash and half in shares and bonds of the company.[17] The North Missouri railroad appropriated for payment for construction, subsidy bonds issued by the state of Missouri, bonds of the city and county of St. Louis, and a small amount of capital shares.[18]

A peculiar construction contract was made in 1848 by the New York and Erie with individuals on the section of the route between Binghamton and Corning. It provided that these men should build this section of the road, supplying all materials except the rails, in return for certificates secured upon the income of that section. This agreement was carried out; but bonds were subsequently issued in exchange for the income certificates.[19] The Atlantic and Great Western made a contract for the completion of the road between Dayton and Mansfield, under the terms of which interest charges on the bonds paid for construction should begin not at the date of their issue, but at the date of the contractor's receipts and bills of purchase. By this arrangement the company insured itself against the usual loss incurred through interest payments during the progress of construction.[20]

The Dependent or "Inside" Construction Company.—With the extension of railroads into the undeveloped portions of the West and South, the promise of adequate returns from operation was not sufficient to make the securities of the railroad company attractive to those to whom appeal was made for construction capital. Promoters therefore had to share with contractors, grants of government land and subsidy bonds of counties and municipalities, or resort to the organization of subsidiary railroad construction companies. In consequence, the railroads in those sections of the country have been generally built not because they were needed, but because promoters saw

[17] Annual report, 1853.
[18] Annual report, 1855.
[19] Annual report, 1849.
[20] Annual report, 1856.

opportunity for large immediate profits by building them. The customary procedure has been well described as follows:

The railway builder, urged on by the people whose towns, factories, and farms would be benefited by increased facilities of transportation, soon found, shrewdly enough, that he could usually build his road from the bonuses of the future patrons of the road, and the proceeds of the bonds that eastern investors, encouraged by glittering reports of the communities through which it was to pass, would invest in; then he would have the stock of the road and the privilege of operating it for the profit of his venture; if the road should be prosperous, his stock would be valuable; if not, he could at last contrive by some means to declare a dividend or two and unload his stock.[21]

Large Profits of Promoters.—By strict interpretation of law as announced in judicial decisions, the amount of securities which may be issued has been limited to funds or properties acquired. But the freedom permitted in determining and stating cost has left the officers practically without limitation. The cost, as interpreted by those in control, was the amount of the capital issues. Except for charter restrictions there was no limit to the amount of bonds and share capital which promoters as directors of a railroad company might issue to themselves as proprietors of an inside construction company in payment for the road. Thus the par or nominal value bears little or no relation to the actual cost of the property. To Newton Booth we are indebted for this description of the manner in which railroads were built:

For many years it has not been the American fashion for the owners of railroads to put their own money into their construction. If it had been it would have insured a more conservative and businesslike use of that species of property. The favorite plan has been to get grants of land, and loans of credit from the General Government; guarantees of interest from the State gov-

[21] Davis, 198.

ernments; s[illegible] ons and donations from counties, cities and individuals; [illegible] upon the credit of all this, issue all bonds that can be put upon the market; make a close estimate as to how much less the road can be built for than the sum of these assets; form a ring . . . for the purpose of constructing the road, dividing the bonds that are left; owning the lands, owning and operating the road until the first mortgage becomes due and graciously allowing the Government to pay principal and interest upon the loan of her credit, while "every tie in the road is the grave of a small stockholder." Under this plan the only men in the community who are absolutely certain not to contribute any money are those who own and control it when it is finished. The method requires a certain kind of genius, political influence, and power of manipulation, and, furnished one clew to the reason why railroads "interfere in politics." The personal profit upon this enterprise is not a profit upon capital invested, but the result of brain work—administrative talent they call it—in a particular direction.[22]

Use of Privileged Information for Personal Profit.—Promoters gained or lost upon their ventures in railroad construction as they were able to unload their inflated securities upon the public; but there were many other opportunities open to them which seldom failed to bring a profit. There were the land grants, which they sometimes dissevered from all connection with the other property of the road, and sold or leased. There were also opportunities for large profits from operations in real estate. As individuals, promoters would purchase sites for shops, stations, and terminals before their location was publicly announced, and then turn the land over to the railroad at a large advance in price. In the same manner they would sometimes obtain town sites, and divert the route of the railroad to afford themselves opportunity to sell out to settlers. In locating the line of the Milwaukee and Mississippi railroad, Byron Kilbourn refused to cross the

[22] Booth, "The Issue of the Day;" speech at San Francisco, August 12, 1873: 4-5.

Wisconsin river at Newport, but chose instead a vacant site, owned by him and bearing his name, a few miles up the river. To-day, nothing remains of the town of Newport, while Kilbourn has about half the population which Newport had before the building of the railroad.

Speculative Land Companies.—In many instances promoters have formed land companies for the purpose of carrying on their speculative operations. Upon the St. Joseph and Denver City, there was the Kansas and Nebraska Land company; and upon the Northern Pacific, the Lake Superior and Puget Sound Land company so sapped the resources of the railroad company as to contribute materially to its downfall in 1873.

Type of Construction Company Contracts.—Examples of construction company contracts could be cited at great length. The Logansport, Crawfordsville, and South Western railroad agreed with its director-contractors to turn in all the municipal subsidy bonds, capital shares, and bonds. About $1,000,000 was actually paid out on account of construction, and for this, over $4,000,000 of securities were issued.[23] The Morgan Improvement Company, made up of directors and others in the Gilman, Clinton, and Springfield railroad, took the contract for construction. Its actual expenditure was $1,500,000, but the cost to the railroad company was $2,000,000 in first mortgage bonds, $1,400,000 in shares, and $598,000 in municipal subsidy bonds.[24]

The Iowa and Mississippi River Construction company, which was organized by some of the directors of the Chicago, Dubuque, and Minnesota railroad, agreed to build the road for $25,000 in railroad bonds and $37,500 in shares per mile, together with all the local subsidy bonds.

[23] Hassler, "Railroad Rings," 10.
[24] Swain, "Economic Aspects of Railroad Receiverships," *Economic Studies*, III, 93.

The contract provided that if the construction company, after exhausting its assets, including its share capital of $300,000, should find that it was unable to complete the road, it would be relieved from all further liability, and the railroad company would accept the road in its unfinished state. Under these conditions the construction company received $5,082,500 for work which cost $4,282,500. Of the balance of $800,000, only $173,000 could be accounted for. A similar contract was made with the Chicago, Clinton, and Dubuque railroad. In this case the construction company agreed to build and equip the road in return for $25,000 per mile in bonds and $21,000 in capital shares per mile, 38,000 acres of land, and all donations and tax aid. For the supervision and management of the work and the expenditure of its $140,000 of share capital, the construction company was to receive all of the shares and bonds of the railroad. Furthermore, it was provided that if the assets of this company should prove insufficient to complete the road, it would be relieved from further obligations and become entitled to the land grant and to the shares and bonds. Under this contract forty-eight miles were constructed before the assets of the construction company were exhausted. Meanwhile the railroad had turned over $1,500,000 of its bonds, worth $1,350,000.[25] Such practices were then legal under the laws of Iowa; and in consequence railroad construction companies flourished in that state. Pennsylvania also contributed to the abuse by granting special charters—"roving" charters, as they were aptly called—for companies which were allowed to change their name and purpose, and to increase the amount of capital at will. Thus the Dominion Land company, organized with a subscribed capital of $100,000, was immediately transformed into the California and Texas Railway Construction company, with a nominal

[25] *Commercial and Financial Chronicle*, XX, 185-6.

capital of $10,000,000. It then took the contract for constructing the Texas and Pacific railroad. When this railroad went into a receiver's hands in 1885, an investigating committee found that the "wretched condition" of the property was due to "inferior construction and inferior material used by the construction company." The New Orleans division was reported to be half the time under water.[26]

Wisconsin Central.—The Wisconsin Central, originally the Portage, Winnebago, and Superior railroad, was built by a construction company at the head of which were the president and general manager of the railroad. The directors of the railroad company on accepting the work were forced to admit that it was worth less than its cost. They thought it necessary, however, to report:

> The officers of the Construction Company, by the terms of their contract, were to receive no compensation whatever except their respective salaries, which were fixed in their contract, and they never have, to the best of our knowledge and belief, received in any manner any profits or private gain or advantage, directly or indirectly, from their connection with this work. They contracted originally not even to invest in any way in property along the line of the road while it was in their charge; and your Directors believe that they have fulfilled this agreement in the most exact and honorable manner, both in its letter and spirit.[27]

Whatever may be the facts behind the statement, it is noteworthy as indicating the general practice in railroad construction at that time.

The Credit Mobilier.—Political scandals arising from the construction of the Union Pacific have given to the operations of the Credit Mobilier a notoriety unwarranted by their actual importance. The subject has been thoroughly investigated by congressional committees, and dis-

[26] *Ibid.*, XLI, 714.

[27] Annual report, 1878.

cussed both in political pamphlets and in scholarly treatises. The main facts are therefore established. From the financial point of view, the Credit Mobilier should be regarded not as an exception, but as a type of the construction companies which have built most of the railroad mileage in this country. Where different methods have been employed, it has been to suit particular circumstances. In all cases the purpose and the results have been the same.

Building of the Union Pacific.—Organization of the Union Pacific railroad was effected in 1862, and an attempt was made at once to build the road. In two years $600,000 was expended on construction, but the amount received from subscriptions to the shares was only $218,000. In 1864 a committee was appointed to solicit bids from contractors, but without result. No men of any financial responsibility were connected with the work. In order to make the enterprise more attractive to capital, Thomas C. Durant, the vice-president and active head, decided to form a construction company. First, however, a contract for the construction of one hundred miles, at $50,000 per mile payable in securities, was awarded to a "dummy" named Hoxie, who was an employee of the company. Hoxie then proposed that if this contract should be extended to the one-hundredth meridian or 147 miles further to the west, he would take, or cause to be taken, $500,000 of additional shares. Durant obtained an agreement from Hoxie providing that his contract should be assigned to Durant, or to whomever he might designate. He then organized a partnership from among the leading shareholders of the railroad, and obtained a subscription of $1,600,000, upon which twenty-five per cent. was paid in cash. By this arrangement the subscribers were to share in the profits of the Hoxie contract; but becoming alarmed at the magnitude of the task and the unlimited nature of their liability, they did not respond to the

second assessment. Durant thereupon produced the charter for the Credit Mobilier, which he had already procured for such an emergency.

This charter was one which had been granted by Pennsylvania in 1859 for the "Pennsylvania Fiscal Agency."[28] It was essentially a thing to sell, for its terms were so elastic that they could be applied to almost any sort of financial operation. Most important of all, it provided that the liability of shareholders should be limited to full payment of their original subscription. Soon after this transaction, the corporate name was changed to the "Credit Mobilier of America."[29]

The members of Durant's construction company were given shares in the Credit Mobilier to represent their advances on account of the work; and the holders of the $2,180,000 of Union Pacific shares were allowed the option to take Credit Mobilier shares for the amounts they had paid in, or to sell their shares to the Credit Mobilier or back to the Union Pacific. The shareholders in the two companies thus became identical, though they might hold different amounts. This was in March, 1865. At about the same time, New England capital was attracted, and the available resources thereby increased to $2,500,000.

Under this arrangement the Credit Mobilier completed the Hoxie contract in October, 1866. West of the one-hundredth meridian, work was continued by the Credit Mobilier without reference to any contract until 138 miles had been completed in this manner. Meanwhile, two factions had arisen in the Credit Mobilier. Durant and his followers professed to have little confidence in the ultimate success of the railroad as an investment, and they therefore proposed to derive all possible profits from its construction. The other party, at the head of which was

[28] L. 1860, appx., no. 715.
[29] L. 1864, no. 96.

Oakes Ames, was made up of New England capitalists who favored the building of a substantial road, but had no compunctions about exacting all profits consistent with the attainment of that object. Durant was ousted from the presidency of the Credit Mobilier, but he was able to retain his office as vice-president of the Union Pacific. Sidney Dillon became president of the Credit Mobilier, and Ames was elected head of the railroad company. Durant's influence was still sufficiently strong, however, to prevent further contracts with the Credit Mobilier.

A compromise was finally effected by which a contract was taken by Ames, who agreed to assign it to seven trustees for the benefit of those who at that time were shareholders in the Credit Mobilier. This contract was for 667 miles of road west of the one-hundredth meridian, thus including the mileage which had already been constructed by the Credit Mobilier in excess of that which had been included in a contract. In order to participate in the profits of the Ames contract, the shareholders of the Credit Mobilier were required to execute irrevocable proxies to the trustees, empowering them to vote upon at least six-tenths of all Union Pacific share capital. To make the contract of the trustees absolute, the written consent of every shareholder of the Union Pacific was also obtained. After this "tri-partite agreement" became effective in October, 1867, the Credit Mobilier as a corporation had no further relation with the construction of the railroad.

Under the direction of the trustees, among whom were Ames, Durant, and the other leading shareholders in both companies, the work was completed. When the Ames contract expired, another similar in terms was made for the remaining 125 miles, and assigned in the same manner, though it was not made directly with Ames.

As the work progressed the Union Pacific turned over, first to the Credit Mobilier and afterwards to the trustees, the subsidy bonds of the United States and the securities of the railroad. The charter provided that shares should be sold only for cash, and that neither shares nor bonds should be sold below par. Little cash was ever paid in, however. The Union Pacific would give its check in payment for construction, and the same check would be immediately returned in payment for shares. This was considered a "cash" transaction, and as such was entered upon the books of account. The shares were then sold for as low as thirty cents on the dollar, and the proceeds applied to further construction. The surplus of securities and money was divided among the shareholders of the Credit Mobilier.

At the time when the contest for control of the Credit Mobilier was at its height, one of the Durant faction wrote an informing letter to a member of congress whose reputation was such as to give him the name of "watch dog of the treasury." This was mailed, and Ames notified. An agreement was immediately effected, and the letter was recovered from the mails. This incident brought to the minds of all concerned, a realization of the fact that a congressional investigation would expose the methods by which the law was being evaded, and result in shutting off the subsidy payments, and thus ruin the whole enterprise. The parties were therefore forced to agree upon a course of action. To Ames, who represented a Massachusetts district in congress, was given a number of Credit Mobilier shares to place at par among the influential members of congress in order that they might have a more active interest in the support of the venture. Already bills had been introduced which threatened to regulate the charges upon the road, and it was with the idea of protecting the undertaking from what he consid-

ered confiscatory attacks, rather than to obtain beneficial legislation, that Ames set out to place the shares where they would "do most good," as he explained in a letter written at the time. "We want more friends in this Congress," he said, "and if a man will look into the law (and it is difficult for them to do it unless they have an interest to do so) he can not help being convinced that we should not be interfered with."

This expresses very clearly the attitude of Ames in the matter. It seems that he had no intention of bribing anyone; for the shares were to be paid for in cash (or in dividends). He employed none of the methods which are customary in conducting bribing operations. The characteristics of the method which ultimately brought its users into disrepute was failure to recognize that one party to the transaction was a trustee for the public; a trustee who theretofore had not been held very strictly to account, but one on whom increasing demands were being made. Ames' expulsion from congress has singled him out for a larger share of popular condemnation than was his deserts, but the attitude of Ames and his associates toward public officials was one which had been winked at and condoned for decades by a public that now demanded a sacrifice. But however much may be said in his favor, as the man to whose efforts the success of the great task is mainly due; the sober judgment of the people was then and since that time has been in full accord with the opinion expressed by the late Senator Hoar, who said:

> He and his associates in the Union Pacific railroad seemed in this matter to be utterly destitute of any sense of public duty or comprehension of the great purposes of Congress. They seemed to treat it as a purely private transaction, out of which they might get all the money they could, without any obligation to carry out the act according to its letter, if they could only do so without being detected. They seemed to have thought that

they were the sole owners of the Union Pacific railroad and of the Credit Mobilier corporation, and that the transaction between the two concerned themselves only and not the public. . . . The managers of the Union Pacific railroad . . . made a contract with the Credit Mobilier Company to construct the road at a price which would exhaust all the resources of the road, including the proceeds of the bonds of all kinds, and divided the proceeds among themselves as dividends on the stock of the Credit Mobilier. This left the Union Pacific railroad to begin business mortgaged to its full value without any resources for its operation, and utterly stripped of the ample endowment which the bounty of the Government had provided for it.[30]

Construction of the California Lines.—The profits from the construction of the Union Pacific were distributed among all who held shares in the enterprise; in the case of the Central Pacific they were diverted to an inside group composed of Collis P. Huntington, Leland Stanford, Mark Hopkins, and Charles Crocker. With the exception of the first section of thirty-one miles east of Sacramento, which was built by small contractors, the work as far as the Nevada line was performed under contracts given to "C. Crocker and company." Crocker resigned from the railroad directorate to take these contracts, and his place was filled by his brother. It has been claimed that he had no partners in this undertaking, but there is good reason to believe from the evidence that at all times the four principals were equally interested in the results of the contracts; that the sole proprietorship was a fiction more or less carefully guarded to avoid successful attack in the courts of law, but nevertheless a fiction. When the "Contract and Finance company" was organized to take up the work across Nevada and eastward to a junction with the Union Pacific, the resources of C. Crocker and company were turned over for the benefit of the new company. The Contract and Finance company also built

[30] Hoar, "Autobiography," I, 315, 320.

parts of the Western Pacific railroad and of the California and Oregon. It was dissolved in 1874, and its assets were divided among the four members. As a necessary precaution against disturbing intrusion or attack, its books were afterwards destroyed. The "Western Development company" was next organized to build parts of the California and Oregon and of the Southern Pacific. It was followed by the "Pacific Improvement company." This company not only took large construction contracts, but it also held valuable property which was necessary for the proper operation of the railroad. It owned the bridge over the Colorado river at Yuma, the great ferryboat which took the place of a bridge across the strait of Carquinez, station buildings at Los Angeles and Sacramento, coal mines in Washington and Mexico, piers at Santa Monica and San Pedro, and water front lands at Berkeley and Oakland. It also controlled the Pacific Mail Steamship company, and the street railroads in San Francisco and Oakland, and it owned steamers operating upon the Sacramento river and San Francisco bay. Through this company—which is still in existence, though possessed of little of this property—the railroad was made to contribute generously to the private fortunes of the men who held control.[31]

System Responsible for Inferior Work and Over-construction.—So long as an inside company was charged with the work, there was small chance of reaching a high standard of construction. The motive was profit and not efficiency. This resulted in loss to the shareholders through the diversion of earnings for immediate reconstruction of the road. The greatest public evil resulting from the system, however, was undoubtedly the building of mileage in excess of the needs of the country, and often in sections where there was little prospect of there ever being a paying traffic. Such a misapplication of capital had its place

[31] Pacific Railway Commission, Report, 69-82.

among causes of the several financial panics that followed.

As in other cases where the requirements of business morality and public welfare have been openly violated by common consent for the accomplishment of a temporary useful purpose, the immediate end having been accomplished, the vicious aspects of the method of necessity disappear. The acts of some hapless individual may be made the text for a campaign of popular education which makes impossible a return to previous practice, but the adjustment once made comes to stay.

Notwithstanding the unnecessary mileage which has been built in certain sections, the country has continued to call for additional transportation facilities. Construction companies are still organized for the purpose, but their affairs are conducted in a manner to make them the subject of less adverse criticism.

CONSTRUCTION OF EXTENSIONS

Railroads Usually Built in Sections.—Few railroads of any considerable mileage have been constructed by a single corporation. For this fact several causes are responsible. The earliest lines were designed for local needs, and the first trunk lines were merely consolidations of a number of local segments for the accommodation of through business. The security attaching to the bonds of these early roads was never of the best, and in order that it might be made as strong as possible, a provision was usually inserted in the mortgage which would automatically extend the lien to any property thereafter acquired. For this reason, when a company having such bonds wished to extend its mileage, it found itself able to raise funds only through the sale of second mortgage bonds or capital shares. As neither was in great demand, it was necessary in some way to evade the restriction of the first mortgage. This could be best done by forming a separate corporation, the bonds

of which might be secured by a first lien upon the additional mileage. Independent, however, of the handicap of the after-acquired property clause, it has been generally found to be poor policy for a railroad to build long extensions into undeveloped territory when by means of a subsidiary corporation it can advance large sums toward the construction of additional mileage without endangering its own credit. With the endorsement of the parent company, such bonds may be made acceptable to investors.

Endorsement of Bonds by Parent Company.—In deference to popular hostility toward large corporations, it was the original policy of the Pennsylvania railroad to confine itself to the state of Pennsylvania, and to reach Western traffic by assisting in the construction of connecting lines under contracts for the interchange of traffic. Thus the Ohio and Pennsylvania, the Ohio and Indiana, the Fort Wayne and Chicago, the Marietta and Cincinnati, and the Steubenville and Indiana were aided through large share subscriptions, and the Philadelphia and Erie and the Grand Rapids and Indiana, by the endorsement of bonds. In addition to its endorsement, the Pennsylvania took $3,800,000, or over three-fourths of the entire issue, of the Philadelphia and Erie bonds, and thus provided funds for the construction of the road. Other lines followed a similar practice; the Baltimore and Ohio subscribed $1,000,000 to the bonds of the Pittsburgh and Connellsville, and the New York, Lake Erie, and Western advanced large sums to aid the construction of the Chicago and Atlantic.

Collateral Trust Bonds.—Collateral trust bonds have served as an effective aid in the financing of extensions and branches; for after the securities of the subsidiary lines have been received in exchange for construction advances, they may be deposited as security for an issue of collateral trust bonds, and the sums advanced thus restored to the treasury. This practice has been followed by the Illinois

Central. Such bonds have also been issued directly in exchange for the securities of extension lines. The Chicago, Rock Island, and Pacific in this manner financed the construction of the Wisconsin, Minnesota, and Pacific, the Chicago, Kansas, and Nebraska, and the St. Joseph and Iowa. By this method, which has also been adopted by the Union Pacific, the Atchison, and other representative railroads, the treasury of the parent company is protected, for the cash payments are limited to the amount required for interest upon the bonds. Whichever plan is followed, the necessary funds may be raised more readily because of the desire of the investor to own a security, whatever its nature, for which an established company is responsible.

Modern Construction Methods Illustrated.—The Chicago and North Western is a type of railroad system which has been to a large extent built up by means of subsidiary companies. Whenever an extension has been completed by one of these companies according to the terms of the lease which is entered into before the beginning of construction, the parent company has furnished the equipment and operated the new lines subject to the provisions of that agreement. When the Chicago, Burlington, and Quincy reached the Mississippi river, its directors were unwilling to assume the risk of building into Iowa. They decided, therefore, to form a new company, to the shares of which the shareholders of the parent company would be asked to subscribe. The Burlington and Missouri River railroad was accordingly organized with practically the same board of directors, and with many of the old shareholders. An agreement was entered into with this company, providing that the Chicago, Burlington, and Quincy should set apart half of the gross earnings on exchanged traffic as a fund for the purchase of securities of the new company. This resulted in transferring the title from the Chicago, Burlington, and Quincy shareholders to the corporation itself.

Meanwhile the new road was operated under a lease. Similar methods were adopted in the construction of the Burlington and Missouri River railroad of Nebraska and the Chicago, Burlington, and Northern. Both the North Western and the Burlington have generally built their extensions without the intervention of construction companies, and provided capital for the payment of contractors out of the proceeds of bonds. It is the settled policy of the Great Northern to build extensions upon the credit of the completed portions of the road. Advances are made to an extension company from the surplus or from a fund obtained by selling Great Northern shares at par. Upon the completion of the new line, its shares are turned over to the Great Northern at par in payment of the original loan. Thus the Great Northern becomes owner of the road, the share capital of which represents its cost. The Atchison, Topeka, and Santa Fé began as a short line between two towns in Kansas. The system is now an aggregation of lines built by separate corporate organizations, but controlled by owners of shares representing advances for construction. Many of these subsidiary lines are nominally leased, the rental usually amounting to the interest upon the bonds. The company reaches the Pacific coast over a succession of lines, some of which were first organized by local capitalists so that the identity of the controlling forces need be disclosed only after a firm position had been established.

The Western Pacific.—The Western Pacific railway is a subsidiary line of the Denver and Rio Grande system, projected to provide the Gould lines with an outlet to the Pacific coast. To provide for its construction the Denver and Rio Grande, itself and with the Rio Grande Western, took the entire issue of $50,000,000 first mortgage bonds —which were underwritten at ninety—receiving as a bonus an equal amount of shares, which amounted to two-thirds

of the total. If the proceeds of these bonds should prove insufficient to construct the railroad and necessary terminals and to purchase at least $3,000,000 worth of equipment, the Rio Grande Western agreed to make up the deficit, taking in exchange for its advances second mortgage bonds, of which $25,000,000 were issued. As inferior bonds could not be sold, an issue of $10,000,000 of short term notes was made in 1908. Until the completion of the main line, interest amounting to $7,500,000 was charged to construction, but with the beginning of operations the Denver and Rio Grande guaranteed the interest payments under the first mortgage. The Rio Grande Western has since been merged in the Denver and Rio Grande.

As was the case with the Atchison, the Western Pacific was compelled to conduct its preliminary negotiations in California through local capitalists. The first step was the organization of the Stockton and Beckwourth Pass and the Sacramento and Oakland railroads, and the San Francisco Terminal Railway and Ferry company in 1903. It was not until 1905 that the Western Pacific took over these companies, and disclosed the forces interested in the undertaking.

The St. Paul Extension.—In the financing of the Chicago, Milwaukee, and St. Paul extension to the Pacific coast, entirely different methods were employed. In 1906 the company offered its shareholders the privilege of subscribing at par to $100,000,000 of new shares, the final installment on which became due in March, 1909. Out of the capital obtained in this manner, it was estimated that the line could be built and equipped, and construction advances out of earnings returned to the treasury. Interest was paid upon installments toward the purchase of the new shares and included as a part of the cost of construction. With the payment of the final installment the new shares were put upon a dividend basis, but by that time the line

was nearly ready for operation. By this method the old shareholders were protected against immediate loss from reduction of dividends occasioned by the work of construction. In May, 1909, a mortgage was filed to secure an authorized issue of $100,000,000 of bonds, and in June of that year $25,000,000 of four per cent. debentures, or half the amount authorized, were issued to provide for branch lines and feeders. As has been the general custom, construction was carried out through subsidiary companies. Thus the entrance into Seattle was effected by means of the Columbia and Puget Sound railroad; and in Idaho, Montana, and South Dakota were chartered corporations bearing the name of the parent company. The extension is now known as the Chicago, Milwaukee, and Puget Sound railway.

CONSTRUCTION OF SPECIAL STRUCTURES

Bridges.—While the courts have held that a bridge becomes a fixture of a railroad, and that therefore a conditional sale of such property cannot be held valid as against general mortgagees,[32] there has been no attempt to challenge the lien of the holders of bonds issued by a railroad company and secured upon a bridge built out of the proceeds of the loan. Thus the International and Great Northern railroad in 1880 issued $225,000 of forty-year bonds to provide for a bridge over the Colorado river near Austin. These bonds are subject to a sinking fund provision requiring that $2000 shall be applied annually to the purchase of the bonds at 110; if bonds are not obtainable at that price, the money is to be invested in other first mortgage bonds to yield four per cent. Similar bonds were issued by the Newport and Cincinnati Bridge company upon the bridge over the Ohio river between the above named cities.

A more common practice is to put out bonds through

[32] Porter v. Pittsburgh Bessemer Steel Company, 122 U. S., 267.

the medium of a subsidiary bridge company. Such bonds are usually guaranteed by the railroad company and redeemed through a sinking fund. The St. Louis and San Francisco railroad in this manner provided for the bridge over the Mississippi river at Memphis through the Kansas City and Memphis Railway and Bridge company; the Louisville and Nashville railroad, for a bridge over the Ohio, through the Henderson Bridge and Railroad company; and the Missouri, Kansas, and Texas for a bridge over the Missouri river, through the Boonville Bridge company. In some cases a number of railroad companies have joined in the construction of a bridge for common use. Thus the Chicago and Eastern Illinois, the Illinois Central, the St. Louis, Iron Mountain, and Southern, the Missouri Pacific, and the St. Louis and Southwestern railroads financed the construction of the Thebes bridge over the Mississippi river through the Southern Illinois and Missouri Bridge company. Similarly the Michigan Central tunnel under the Detroit river was constructed from the proceeds of an issue of Detroit River Tunnel company bonds, secured upon the completed property.

Terminals.—Terminal facilities, whether passenger stations, piers, or warehouses, require immense expenditures for sites and construction work. The early railroads were able to obtain lands for this purpose as a gift or at nominal cost, but the growth of business has created a constant demand for enlarged buildings and yards, requiring a great outlay of capital. When a railroad now tries to effect an independent entrance into a large city, the cost is so great as to be prohibitive except for the strongest companies. Thus the Grand Central Terminal site in New York, which was obtained at small expense by the New York and Harlem railroad, has long been in control of the New York Central; but while its possession has proved of inestimable strategic value, the demands of a constantly

increasing volume of traffic have necessitated entire reconstruction. And the Pennsylvania Terminal in New York has absorbed a great amount of capital for the site, tunnels, and building. Such outlays may be justified in the light of the experience of the West Shore and of the Erie, which demonstrated the necessity for a direct entrance into a large city. The fate of the New York and New England showed the folly of depending upon the facilities of a natural rival for this purpose.

Terminals may be financed out of a direct addition to the general securities of a railroad, but the more common method is to issue bonds secured by a specific lien upon the property, either by the railroad company itself or by a subsidiary terminal company. The Pittsburg, Fort Wayne, and Chicago railway in 1860 obtained a site in Chicago by means of an issue of "Chicago depot" bonds. The Wabash railroad has outstanding an issue of bonds secured upon terminal properties in St. Louis, Kansas City, Omaha, Chicago, Quincy, Toledo, and Detroit. Other examples are: the Reading company's terminal bonds, which are secured on certain terminals in Philadelphia, and the Louisville and Nashville's "St. Louis property" bonds.

The same reasons which have caused railroad companies to finance the building of bridges through securities issued under other names have prompted the construction of terminals by means of subsidiary corporations formed for that specific purpose and controlled by the railroad company. The Philadelphia and Reading enters Philadelphia over the property of the Philadelphia and Reading Terminal railroad company. The terminals used by the Louisville and Nashville are owned by a company in which it is joint owner; the freight terminals of the Atchison, Topeka, and Santa Fé at San Francisco, by the Santa Fé Terminal company; and the docks used by the Mobile and Ohio railroad on the Mobile river, by the Mobile Dock company.

Joint ownership of terminal property is a natural consequence of the great expense attaching to independent entrance into a large city. The St. Paul Union Depot company share capital is owned by the nine different railroads which enter St. Paul. Other examples are the New Orleans Terminal company, owned jointly by the Southern and St. Louis and San Francisco railroads, and the Northern Terminal company of Portland, which is owned by the Southern Pacific and the Northern Pacific. The Terminal Railroad Association of St. Louis is controlled by fourteen railroad companies. It owns the Union Depot company property at St. Louis, and leases the St. Louis Bridge and Tunnel, and also the St. Louis Belt and Terminal railway.

CHAPTER V

FINANCING EQUIPMENT

Definition.—As defined by the interstate commerce commission, equipment includes steam and electric locomotives, passenger and freight cars, work cars, machinery and tools for construction and repair, and ferryboats, tugs, and other floating properties. Here the discussion will be concerned principally with the rolling stock used in the handling of revenue traffic. Cost of equipment will be taken to mean the net amount of outlay either on account of manufacture or under contract.

Cash Purchase and Manufacture in Railroad Shops.—The early local railroads, particularly those on the Atlantic seaboard which obtained construction funds by sales of shares, provided for equipment in the same manner as for construction. After completing the roadbed, they entered into another contract for rails, and then procured equipment through a contract with the manufacturers. Additional equipment, they built in their own shops, for there were no large establishments capable of supplying the wants of the rapidly increasing number of railroads. Some of the older companies still operate extensive manufacturing plants, but none attempt to supply all their own requirements. The business has become concentrated in great industrial corporations like the American Car and Foundry company, the Baldwin Locomotive Works, and the American Locomotive company, which are able to fill orders for almost any amount of equipment.[1] The car builder of to-day, however, may be said to be merely an

[1] Moody, "The Great Railroad Equipment Combinations," ***Moody's*** *Mag.*, VII, 247-57.

assembler; for each master mechanic has his own ideas as to patterns and materials. Consequently, when a railroad enters the market for new equipment, it orders the parts from the foundry, and the car builder puts these parts together and delivers the finished equipment to the railroad.

Purchase With Proceeds of Bonds.—Whatever the original basis of financing, necessity sooner or later compelled the early railroad financiers to provide for purchase of equipment out of the proceeds of bonds. These bonds were usually secured by a general mortgage covering the entire property of the company. It therefore became necessary either to reserve a certain amount of bonds for further purchases of equipment, or to resort to some other method which would adequately protect the interests both of the investor and of the vendor. Out of this situation arose the practice of purchasing equipment as it is needed, and paying for it from time to time out of earnings.

Purchase on the Installment Plan.—A large and steadily increasing amount of railroad equipment has therefore come to be purchased under a contract of conditional sale. This practice began late in the sixties, when few states recognized such a contract as valid as against third parties, and in consequence, the first sales were conducted after the manner of installment leases, with lease warrants to represent the payments made by the railroad.[2] The statutes now generally recognize the validity of the conditional sale, but the fiction of the installment lease has been retained in a large proportion of the equipment contracts which are now in effect.

Purchase Directly from Manufacturer or Through a Trustee.—A railroad may purchase equipment directly from the manufacturer under this plan, turning over the lease warrants when the equipment is received, and pay-

[2] As early as 1845, we are told, the Schuylkill Navigation company purchased barges after this plan.—Rawle, "Car Trust Securities," Amer. Bar Assoc., *Report*, VIII, 322.

ing the money directly to the manufacturer as the warrants fall due. This is frequently done to-day, but it is usually to the advantage of manufacturers to induce the investing public to become creditors of the railroads in lieu of themselves. To this end it is customary to assign the lease to a trustee (usually an incorporated trust company) as collateral security for a series of notes which certify that the holder is entitled to an interest in the lease and a share in the proceeds of the payments to be made by the railroad on its warrants. These notes are commonly known as "car trust certificates."

The Equipment or Car Trust.—There is little uniformity in the details of car trust agreements, but it is possible to single out certain features which are found in most contracts of this nature. A certain amount of cash is paid by the railroad upon receiving the equipment, and additional payments are made in fixed amounts and at regular intervals; the sum paid being sufficient to provide for rentals, interest, and an installment toward the purchase price. The size of the original cash payment is determined by the credit of the company purchasing the equipment. It is usually ten or fifteen per cent. of the purchase price, but it may be as high as twenty-five per cent. Only a few exceptionally strong railroads have been exempt from this requirement. When final payment is made, title to the equipment becomes vested in the railroad, but in case of default before that time, the railroad forfeits whatever it may have already paid. Installments may be paid monthly or quarterly, and sometimes annually, but they are usually due semi-annually. In most cases the certificates are issued with coupons, but they may be had in registered form. They are commonly guaranteed by the railroad company. The term of the contract is usually from five to ten years; it is rarely more than twelve. With the advance in the art of car construction greater

durability has been attained, so that the tendency is now toward lengthening the period. The New York Central equipment notes of 1907 are to run fifteen years. Car trust contracts of this nature have been entered into by the Southern railway, the Chesapeake and Ohio, the Norfolk and Western, the Lehigh Valley, and other representative railroads.

Adequate Security of Car Trust Certificates.—The security of car trust certificates is ample, independent of the guarantee of a railroad company. The detailed provisions of the contract require the railroad to pay taxes on the equipment, to keep it insured and in repair, and to restore any cars which may be destroyed. Frequent inspection of the property must be allowed, and a detailed report of its condition must be submitted to the trustee each year. If new legislation should require additional appliances, these must be furnished at the expense of the railroad. All equipment subject to the contract must bear the name of the trustee as actual owner. As with only a few exceptions title to all of the equipment is retained by the trustee until final payment is made, the security of each outstanding certificate becomes relatively greater with time. As rolling stock is essential to the operation of a railroad, even if a company is in the hands of receivers, it will continue to pay its car trust obligations.

Forms of Car Trust Agreements.—There are various ways of forming car trusts. A railroad in need of equipment may arrange with capitalists to organize an association which will purchase equipment from the manufacturers and arrange all details for its final transfer. Or it may enter into preliminary negotiations with the manufacturers, and then obtain the co-operation of capitalists who form an association and conduct the transaction in the usual manner. Sometimes a railroad will contract directly with the manufacturers, but obtain the purchase money

from capitalists who unite in a car trust association and take title to the equipment pending final settlement of the loan. Railroads which have manufacturing plants of their own sometimes build equipment in their shops out of capital furnished by a car trust association under an agreement that when completed the title to the property is to pass to a trustee under the terms of an ordinary car trust lease. In rare instances a manufacturer who has contracted for the sale of equipment directly to a railroad, in order to obtain his money as soon as possible, has deposited the contract with a trustee who has issued certificates of participation in the form of car trust certificates bearing the endorsement of the manufacturer. The Norfolk and Western railway has obtained equipment on the car trust plan through the medium of the subsidiary Virginia company, which is primarily a land and development company. Sometimes an association is organized to buy equipment, contract for its sale to the railroad, execute the deed of trust, and issue the certificates. Such associations are joint stock companies, with capital stock represented by shares or certificates in denominations of $1000. The Pennsylvania railroad has several such associations with a fixed capital, the certificates of which are issued in series which are limited in amount and secured by a lien upon specific equipment. It is the practice of the St. Louis, Iron Mountain, and Southern to increase the capital of its associations as need arises for more equipment, but each series of certificates is secured upon the particular equipment for which it is issued.

There were outstanding on June 30, 1910, a total of $353,341,578 equipment trust obligations of the railroads of the United States.

Equipment Bonds.—As a substitute for the note or certificate put out by a trust company or a car trust association, many railroads have adopted the plan of issu-

ing equipment bonds as direct obligations. The deed of trust securing these bonds may be drawn up in the form of a lease, or what is more frequent, as a simple contract of conditional sale. According to this plan, title to the equipment is assigned by the manufacturer to a trustee, pending final settlement of the bonds by the railroad, and secured upon the contract of sale. The Pennsylvania railroad has bonds of this sort which are subject to a sinking fund requirement, insuring the withdrawal of the entire amount before the expiration of the twenty-five years for which they were issued. The company must pay over to the trustee each year an amount of cash sufficient to purchase five per cent. of the issue at par and accrued interest. If bonds are not obtainable for sinking fund investment at that price, the money may be expended for the purchase of additional equipment to be added to the same trust. The Buffalo, Rochester, and Pittsburgh has several series of equipment bonds issued under the same conditions. It also has one series which is subject to the provision that if the bonds cannot be purchased at a stipulated price, the trustees may draw a sufficient number by lot to take up the cash advanced by the company. Bonds so drawn are to be cancelled, and the entire series may be redeemed by the company upon six weeks' notice at a price fixed in the mortgage.

Equipment Company Bonds.—Equipment may be procured in this manner through the medium of an equipment company, which may be organized for a single contract. Such a company will purchase the rolling stock or the locomotives from the manufacturer, and contract to deliver title to the railroad when final payment is received. This contract it transfers to a trustee as collateral security for the bonds which it issued to represent the money advanced for the transaction. These bonds are finally retired through the operation of a sinking fund. The Kansas

City, Fort Scott, and Memphis has obtained equipment in this manner through the Fort Scott and the Ozark equipment companies, the bonds of which are endorsed by the St. Louis and San Francisco railroad company. In each case the bonds are issued subject to the provision that if none are available for the sinking fund at the price stipulated in the mortgage, redemption shall be determined by lot, and bonds retired in this manner are replaceable by refunding bonds of the Kansas City, Fort Scott, and Memphis. The Pere Marquette has also adopted this plan of financing equipment.

Rental Contracts.—Much railroad equipment was at one time leased from transportation and rolling stock companies under contracts providing for either a per diem or mileage rental. Before and after the Civil war there were organized a number of fast freight lines—"Red line," "Blue line," "White line," etc., collectively known as the "chromatic" lines, and various "dispatch lines"—"Merchants," "Empire," and "National"; all of which were used for the handling of through traffic at a mileage rental. These lines were very generally owned by railroad officials as individuals, and in consequence, excessive rentals were often paid, and traffic was sometimes diverted from the cars of the railroads to cars of these freight lines to make the highest possible mileage. Many of these lines still exist, but in practically all cases their ownership is vested directly in railroad companies and not in railroad officials as individuals.[3]

Rolling Stock Companies.—At various times railroad companies have been unable to obtain funds from their shareholders for the purchase of needed equipment, and, in consequence, the directors have organized car companies

[3] Huebner, "Fast Freight Lines," *Railway Age Gazette*, XLVIII, 316-8; Johnson and Huebner, "Railroad Traffic and Rates," I, 240-53.

to supply the want at a fixed rental. Whatever the reason for such arrangements, they have been too often accompanied by the odor of corruption, and the practice is no longer in favor. When in 1879 the trustees of the Wisconsin Central found it necessary to raise funds for new equipment, they were unable to obtain the required amount from the shareholders. They therefore organized the Central Car company, taking in such shareholders as chose to participate. This company furnished the equipment on a rental contract, with the provision that the trustees might purchase the property at any time upon payment of cost and interest less the amount already paid in the form of rent. By this means it was claimed a saving of twenty-five per cent. was effected upon the demands of outside rolling stock companies. The United States Rolling Stock company was the best known company of this sort. It was organized to deal with the Atlantic and Great Western railroad, but its business expanded until it had contracts with many companies. The Philadelphia and Reading railway company owns no equipment, but leases its rolling stock and motive power from the Reading company, which as a security-holding company also owns all of its capital shares.

Private Car Lines.—Railroad officials have always been slow to adopt new forms of equipment designed for a particular variety of traffic. They have, however, afforded inventors opportunity for carrying on experiments, and when satisfied of the value of a new process or device, they have entered into contracts for its use at a fixed rental. Thus a large proportion of the cars for the carrying of oil, live-stock, and perishable food products are hired by the railroads from their owners, who are frequently the manufacturers or producers of the goods which are carried in their own cars. The tendency to-day, independent of any new legislation, is toward the direct control by a railroad

company of all the facilities used in transportation. The Atchison, Topeka, and Santa Fé has for several years hauled its refrigerator traffic in cars owned by a subsidiary corporation, and the Union Pacific in 1907 also adopted this policy.[4]

PROVISION FOR REPAIRS AND RENEWALS

Replacement of Equipment.—All productive property is subject to deterioration and obsolescence. There is in every operating plant constant need for repairs and current renewals of materials and minor parts which have worn out in service; such expenses are commonly charged against current revenues as one of the costs of operation. There is a point, however, beyond which repairs cannot be economically made, the alternative being replacement of the entire mechanism by a new one. Equipment may be kept in good repair, but there comes a time when it must be replaced. If a part of the plant which has been in use for a term of years is renewed, and particularly if the cost is great, equity to all parties in interest requires that the management distribute the charge over the earnings of several years. This method of financing prevents the burdening of current earnings with an expense largely attributable to the operations of previous years, and tends to preserve that uniformity of net income which is so desirable from the standpoint of both the management and the investor. When this practice prevails, funds are provided by taking, from time to time, out of current earnings such amounts as are estimated to be sufficient to provide adequately for the accruing waste or loss due to irreparable deterioration. These amounts may be set aside in a reserve or special suspense account, or they may be used to purchase new equipment without having the purchase

[4] See Johnson and Huebner, I, 212-39.

appear as adding to the working capital of the company. Generally speaking, railroad managers have not been consistent in their treatment of this subject, and in many instances they have used the equipment account as a convenient means of juggling the finances of the company for the benefit of special interests.

Provision for Obsolescence.—In addition to allowances for repairs and replacements due to wear and tear, it is necessary to provide for the final renewal of the plant as a whole when it shall have become antiquated or obsolete. The remedy for obsolescence is the same as for irreparable wear and tear; that is, replacement. Equity to all parties in interest requires that it be financed in the same manner, the estimated amount to be apportioned and evenly distributed over the life of the equipment. The amount thus falling on each year, quarter, or month would then be regarded as a part of the expense of maintenance, or in any event appear as a charge against current income. In practice, however, the distinction is almost universally lost sight of. There is no uniformity of practice. When any provision for depreciation is made, it is commonly financed through extra appropriations to the replacement reserve, or through direct charges against surplus.

The theory suggested is the practice in industrial enterprises where the principles of financing and accounting for depreciation are understood and adequately applied. By this method only is it possible to arrive at an accurate statement of net revenue, and thus insure the absolute maintenance of capital. Such also has been the practice upon the more progressive railroads with regard to renewals of equipment, and in some instances replacement funds have been set aside in cash. Each accrual has been charged as expense, and set up as a reserve against the assets. If, as has been often the case, the cost exceeded the amount of the fund or cash released to the credit of the

reserve, the excess has been charged to additions and betterments payable out of income, or to capital account, according to the policy of the company. By many managers it has been urged that such a financing of depreciation is impractical. What this means is that they do not have the information needed to make them intelligent about this part of the business. They are still urging rule of thumb methods, guessing at results from present observation, and leaving the shareholders and bondholders without a basis for even a guess. The real difference between what they call theoretical and what they call practical is that the theorist, caring nothing for the facts pertaining to a particular property, suggests a method for getting at the facts as a basis for a satisfactory conclusion, whereas the practical man has such facts as are matters of personal experience, and so rests content with conclusions based on feeling or on a general impression without having any means of verification or any method for the location of responsibility for error. This leaves the way open to abuse.

Abuses of Repairs and Renewals Account.—Prudent managers have been able in periods of prosperity to expend large sums to acquire new equipment, and thus restore the operative efficiency which was allowed to become impaired during periods of depression, and also to make adequate provision for future periods of lessened activity. But advantage has been taken of this prerogative of management to allow dishonest executives to overstate net earnings in periods when it was desired to make a favorable showing, whether to influence prices upon the stock market, or for some other reason. Some railroads have also permitted the charging to capital of expenditures for equipment which should have been applied to current revenues.

Requirements of the Interstate Commerce Commission.—

With the additional power conferred by the Hepburn amendment to the act to regulate commerce, passed in 1906, the interstate commerce commission has promulgated a uniform system of railroad accounts, and in the words of Doctor Henry C. Adams, "the most important principle embodied in the new system of accounting is the fact that carriers are required to set up formal depreciation accounts in operating charges for all classes of equipment. On their formal side these depreciation charges are designed as a means of arriving at a correct statement of net revenues, but perhaps their most important result will be to protect investments and to prevent the management from paying dividends by depleting the property."[5]

Reserve Account for Each Class of Equipment.—Under the old classification repairs, renewals, and depreciation were combined under one formal account—"Repairs and Renewals"—but a separate account must now be kept for each. The commission holds that such a separate showing of depreciation charges is necessary in order to guarantee that the full cost of maintenance and no more than that amount be set against the revenue of a particular operating period, and thus protect the integrity of the net revenue statements published by the carriers. Beginning July 1, 1907, it therefore required that there be established for each class of equipment separate reserve accounts, to which should be credited monthly the amount of accrued depreciation. To these reserves, all new equipment was to be charged. The rate of depreciation to be set up was left, temporarily at least, to the determination of the carriers, but the rate so established was to be subjected to tests by the commission. The basis of accumulation, or the amount to which this percentage rate was to be applied

[5] Interstate Commerce Commission, Statistics of Railways, 1906: 11.

might be the original cost, record value, or purchase price of the equipment. On July 1, 1910, this rule was slightly modified.

The Theory Behind the New Requirement.—As to the method to be followed in the application of depreciation charges to current operations, the rules which involve the actuarial principles of ordinary insurance are recommended in preference to those which rest upon the application of the sinking-fund theory; and this preference rests entirely upon a consideration of the character of railway equipment. "This means," explains Doctor Adams, "that the fund accumulated by depreciation charges should not be reserved as an accumulation until it can be spent for the purpose of replacing the identical property upon which the fund accumulated when such property is abandoned; but, on the contrary, that this fund should be expended, in whole or in part, during the year in which it is created in the replacement of other equipment or in the purchase of new equipment. It is not intended to say that the entire accumulation of a year must be expended during the year. The wisdom of purchasing new equipment or of replacing equipment destroyed is a matter of business policy, and the decision as to the time or extent of such purchase or replacement lies with the board of directors; it does mean, however, that the replacement fund should be used for the purpose for which it was created." [6]

It has been the practice of many carriers to consider that all the requirements of maintenance were met when the original carrying capacity of their equipment was kept up, regardless of the number or value of the cars or locomotives. Others have sought to accomplish the same result by keeping full the numbers in equipment series. All this must now be done away with in view of the declaration of

[6] Interstate Commerce Commission, Accounting Series Circular, no. 13.

the commission that "the question of depreciation is fundamentally a question of values." It is allowable, however, for the carriers at their discretion to calculate depreciation upon the basis of either the value of individual cars and locomotives, or the value of series of such equipment. Finally, it is claimed by Doctor Adams that "the requirement of the new classification relative to depreciation is in no sense revolutionary; on the contrary, it aims to do in an orderly, systematic, and scientific manner what under the old classification was aimed at by a more or less arbitrary method of procedure."

CHAPTER VI

ORGANIZATION FOR FINANCIAL MANAGEMENT

Corporate Powers of Management.—It is a primary principle of corporate organization that the proprietors shall have no direct part in management. The shareholder is essentially a *cestui que trust,* or person who has a beneficial interest in an estate the legal title to which is held by another. The trustee for the shareholder is a legally constituted, inanimate, immaterial person—the corporation—which holds the legal title to all the funds and properties contributed or acquired. Being inanimate and without mind, the corporation cannot contract or perform any act except through living agents or servants; it can only legally hold. The corporate agents or servants are of three classes, directors, officers, and subordinate employees, all of whom are trustees for the corporation and not for the shareholders so far as the funds and properties in their custody are concerned. To these agents or servants are entrusted the functions of management. By reason of the inability of the corporation as such to act, the directors are chosen for it by the shareholders; the directors in turn choose the officers, who choose the subordinate employees. As managing trustees of the corporation, each class of corporate agents or servants has its respective powers and duties carefully defined. The directors acting as a body or board pass upon all questions of policy, appoint the officers, and prescribe rules for the conduct of the business of the corporation. The officers as the executives of the corporation carry out the policies and instructions of the board of directors, having immediate responsibility for the details of employment of subordinates, purchases, sales, and

operation. The subordinate employees are assistants to the officers, charged with responsibility for the performance of specific branches of detailed work.

As the creature of the state, a railroad corporation is responsible for the maintenance and operation of a public highway, in the management of which the state has a right to intervene. But it is only when the beneficial interest of the shareholder cannot be protected through the legally designated agents of the corporation that the shareholder may have resort to the courts for intervention. As the management is of necessity entrusted to the directors, officers, and subordinate employees, it follows that interference by the shareholders with the exercise of discretion in acts of management will be permitted only in the manner provided by the corporate organization, unless it may appear that such action is inadequate to protect the corporate trust. While the principles of law and equity governing corporate servants are very strict, the machinery by which these principles may be applied is so complicated and expensive to put in operation and the evidence of indiscretion or infidelity is so difficult to obtain that the interests of the shareholders are practically at the mercy of the directors and officers, who have come in many instances to assume an attitude of proprietorship inconsistent with their position of servants of the corporation.

Financial Management.—It is necessary to distinguish between financial and physical management. As a means of acquiring, equipping, maintaining, and operating a railroad, it is necessary to have funds. To this end capital is obtained, arrangements are made for temporary loans, rates are fixed, and charges and collections are made. Having obtained the necessary funds from capitalization, from collections for transportation service, and from sales, arrangements must be made to meet obligations and finally to apportion and distribute the surplus. These are func-

tions of financial management. On the other hand, the physical properties are for use in carrying out the purposes of the corporation; and construction work, repairs and replacements, additions and betterments, and operation are therefore within the scope of physical management as well.

Financial Organization.—This distinction between financial and physical management has been recognized from the earliest railroad period. The treasurer was the financial officer, and the secretary in addition to his regular duties served as clerk to the board and custodian of records. The only other officer was the president, who was also chairman of the board and so the dominating force in all matters whether of financial or physical nature. So long as the railroad was operated as a sort of improved turnpike, the simplest form of organization was adequate. With the broadening of the functions of a railroad corporation, however, the number of employees increased; and as these employees became more and more specialized, a more elaborate form of organization developed. The great system of to-day has not only a board of directors, but two other bodies midway between the board and the officers. These are the executive committee and the financial committee. The president is ex-officio member and generally head of one or both committees. The president may also be chairman of the board, as such presiding at meetings of the board and of the corporation. Within the last decade, however, there has been a tendency to subordinate the physical to the financial aspects of management, and the president has been relieved of many of his financial responsibilities. This has been done by electing a separate officer as chairman of the board. In most instances the person chosen for this position has already served as president. The effect of this division of responsibility is to give to the chairman of the board general charge of financial matters, leaving to the president full authority over

matters of physical operation. In some systems the chairman of the board holds the same position in all of the constituent corporations, each of which may have a separate operating head or president. Directly under the president are the heads of the executive departments—transportation, traffic, finance, and law. Some large railroads, which have not followed this plan, have relieved the president by entrusting the management of financial affairs to a vice-president; others still have the treasurer as chief financial officer.

The Treasurer.—Whatever the relation between the board and officers or between different officers in the conduct of financial affairs, the treasurer is always in immediate charge of all the financial resources of the company. He receives remittances from the various departments, and pays out money on vouchers approved by the auditor. He keeps the securities owned by the company, except such as are deposited as collateral for loans. His signature appears upon all evidences of indebtedness issued by the company. Subordinate to him are the assistant treasurer, the cashier, and the paymasters. When the directors declare a dividend, it is the duty of the treasurer to assemble the funds for its payment and to make the distribution. He must also attend to the payment of interest on the debt. At one time he may have a redundancy of current funds, so that it may be expedient to put a portion out at interest; at another time he may have to negotiate a temporary loan. The chief financial official, whatever his title, also acts as the advisor of the directors, and represents them in all dealings with banking houses.

Transfer Agent and Registrar.—The treasurer of some railroads also acts as transfer agent but it is the general practice to have this work performed by a bank or trust company, sometimes in the home city of the corporation, usually in New York. The transfer

agent receives from the purchasers, certificates of shares and registered bonds which have changed ownership; for these he issues receipts which may be exchanged for new certificates at the office of the registrar. The registrar, which almost invariably is a bank or trust company, has a supply of unissued certificates for this purpose, and the books of the company upon which the names of the new owners are entered. The functions of the transfer agent and of the registrar cannot be performed by the same institution, for it is necessary to have an absolute check upon the amount of securities outstanding. The New York stock exchange refuses to list any security of a company which does not provide for independent records of transfer and of registration.

Fiscal Agent.—Either the transfer agent or the registrar may also act as fiscal agent. It is the function of the fiscal agent in addition to conducting the sale of new securities, to redeem interest coupons and maturing notes and bonds of the company. Dividends on shares and interest on registered bonds are paid by check from the office of the treasurer. When the directors declare a dividend, they also specify the period within which the transfer books shall be closed, in order that payment may be made to the actual holders of the capital shares upon the dividend date.

Transfer and Registration of Securities.—While there is printed upon the reverse side of every share certificate, an assignment blank for the purpose of transfer, many shares pass from hand to hand bearing indorsements in blank. This is particularly the case when a share pays no dividends. When bonds are sold, the accrued interest is added to the market quotation in determining the price. Bonds may be registered as to principal and interest, or they may be registered as to principal, and bear interest coupons. The ordinary coupon bond, however, is not registered. In

some instances, shares have been issued with coupons to represent dividends. Thus when the management of the Central Pacific wished to retain voting control and the English shareholders desired immunity from their heavy liability under the California law, it was decided to issue shares through dummies, who would endorse them in blank, at the same time giving irrevocable proxies to the directors. The coupon form of certificate was adopted as a convenient means of issuing payment of dividends to the actual owners of the shares.[1]

Organization for Protection of Investors.—Much of the share capital of American railroads held in Europe was originally endorsed in blank so that the owners had no control over the acts of directors. In Holland this difficulty has been met by the organization of various handling companies or bureaus of administration—*administratie kantoren*—which act as clearing houses for the convenient exchange of American securities. Against these securities they issue their own certificates, which are dealt in upon the Amsterdam bourse. They receive dividends and interest, and distribute them among certificate holders in return for a small collection fee. But the buyer of shares through such a company may, if he choose, call for their redelivery, for the certificates of the handling company which are issued exactly represent transactions in Amsterdam, or elsewhere for Amsterdam account.[2]

Association of American Bond and Share Holders.—It was upon this model that the English Association of American Bond and Share Holders was organized in 1884. This association issues its certificates against American securities, which are registered in its name. These certificates, which are in denominations of $1000, are countersigned by

[1] Doyle, "The Central Pacific Railroad Debt." 55 cong. 1 sess., S. rep. no. 20, pp. 310-1.

[2] Santilhano, "*Amerikaansche spoorwegen,*" viii-ix.

the London and Westminster bank as depository of the American securities in trust. Each one represents a specific block of securities, and to each is attached a numbered series of coupons representing dividends or interest payments. As all the certificates are payable to bearer, there is no difficulty in case of the death of the holder, and all that is necessary to collect a dividend is to forward the coupon to the association or deposit it with a bank. The association will if desired, issue instead of its own certificates, American securities registered in its name and endorsed in blank. In such case the securities must be presented to the association for the collection of interest or dividends. For a fee of three pence a share, the association will also obtain the transfer of any American security to the name of the actual owner.[3]

Investment Trusts.—Besides this association there are many investment trust companies in England and Scotland which operate upon the principle of averaging investments. These share trusts, as they are also called, do not limit their investments to American railroad shares, but extend their activities all over the world. One of the pioneer companies of this sort was the American Investment Trust, organized in 1873. Its object, in the words of its prospectus, was "to enable the moderate investor to spread his investment over a number of different securities, recommended by competent advisors as intrinsically sound and likely to increase in value, and which will be limited to the bonds of the Governments, States, Cities, Counties and public undertakings, especially railroads and public works of the United States and Canada, but with power to the trustees to invest in paid-up shares of undertakings actually earning income." Thirty-year certificates in denominations of 100 were offered, which should be redeem-

[3] Van Oss, "American Railroads as Investments," 143-4; Spencer Churchill, "Virginia Mines and American Rails," *Fortnightly Rev.* (n.s.), XLIX, 796-7.

able at 105 by yearly drawings out of profits. Redemption of all the certificates before the expiration of thirty years would terminate the trust, and if at the end of that period certificates should be outstanding, they should be paid off, after which the balance to the credit of the trust should be distributed pro rata among the holders of the reversion certificates issued to represent the original certificates redeemed at the annual drawings.[4] Other organizations similar in character which were formed about this time are the Railway Debenture Trust company, and the Railway Share Trust. The British financial journals regularly list the securities of a large number of such companies. They have performed a real service to the investor on account of their superior facilities for obtaining information, and consequent ability to make a more judicious selection among the large variety of American securities than could be done by an ordinary individual.

The Voting Trust.—Frequent use of the voting trust has been made to protect the interest of investors in the securities of American railroads. The shareholders by this method agree to delegate the voting power of their shares to certain specified persons who serve as voting trustees either for a certain period of time or until certain evidence shall be presented to show the accomplishment of the purpose for which the voting trust may be established. Thus while the shareholders participate in any dividends which may be declared, the control of the management is concentrated in a few hands. In this way holders of certain issues of shares may prevent contracts which they believe to be against their interest, or they may regulate the issuance of additional share capital and bonds. The chief purpose for which the voting trust has been employed, however, is to enable the bondholders by choosing the trustees to have definite assurance that the property of a foreclosed

[4] *Economist,* XXXI, 334.

and reorganized railroad shall be managed in such a manner that the security of their mortgages will be maintained. More detailed attention, therefore, will be given to this subject in the discussion of reorganization.

Independent Auditors.—A railroad report is the official expression of the board of directors to the proprietors or shareholders of the company. It is the evidence of performance of the duties of stewardship, and thus should be regarded as a statement of an interested party. Hence there is liability that in the report of a dishonest management, essential facts will be obscured or misstated, and that even in cases where there is every evidence of fidelity, certain salient data may not be expressed in their proper relation. A dishonest report from the standpoint of the investor would be no worse than an over-optimistic statement of absolute facts, for an account may represent not only facts but also opinions about facts. It early occurred to the English investor that his interest would be best conserved by means of independent examinations of the accounts of railroads to determine the fairness and accuracy of the official reports. It has long been the practice, therefore, for the shareholders in English railroads to choose independent auditors at the regular meetings. Owing to the demands of English shareholders this plan has been adopted upon railroads like the Chicago Great Western, the Denver and Rio Grande, and the New York, Ontario, and Western (under its old management). But except as a concession to unwarranted fears of those shareholders who distrust the reliability of American railroad officials, the practice has not been generally approved in this country. Moreover, American shareholders do not attend annual meetings in any numbers, as is the custom in England, and the actual voting is done through a few holders of proxies, who invariably represent the directors in control. For these proxy-holders to elect independent

auditors to check the accounts of directors also chosen by them would defeat the purpose of the audit. The losses which have been sustained by holders of American railroad shares, with but few prominent exceptions, have been caused not by manipulation of accounts but by errors of management and policy. Against such defects an audit furnishes no protection other than to bring to the attention of shareholders defects in method and to point out the unsatisfactory nature of the report itself.

Public Accountants.—Within the last twenty years a number of American railroads have employed certified public accountants, who examine the accounts upon which are based the reports of the chief accounting official and make certified reports to the president or board of directors. All that is accomplished through the English practice may be attained in this manner. The danger which lies in the American practice is not that accountants of ability and integrity may not be obtained, but that the conditions of their engagement may limit their power. Furthermore, when a report is made to the officers, it may never be presented to the shareholders.[5]

Protection of the Corporation from Its Financial Officers.—Owing to the various requirements which now have to be complied with in issuing new certificates of shares or bonds not only are the interests of security holders amply safeguarded, but the interests of the corporation itself is protected from its own financial officers. This, however, is the result of unfortunate experience. Until 1854 there were no checks upon the acts of transfer agents; and it was only natural, therefore, that there should have been in-

[5] "A new profession of railway accountants, wholly independent, officially, of any railway system, must be developed before entire frankness and absolute truthfulness can be secured as between the owners, the public, and the administration of railway property."—Sterne, "Recent Railroad Failures and their Lessons," *Forum*, XVII, 31. (1894.)

stances of fraudulent issue of securities. In 1834 the secretary of the Camden and Amboy, who was also transfer agent, improperly issued shares in excess of the amount allowed by the charter, as collateral for a loan.[6] But the most remarkable breach of trust of this nature was that of Robert Schuyler in 1854. Schuyler was one of the most prominent railroad men in the country, holding the position of president of the New York and New Haven, the New York and Harlem, the Rensselaer and Saratoga, the Illinois Central, and the Sangamon and Morgan railroads. He was also concerned in the building of the Vermont Valley and the Washington and Saratoga, and in order to raise the necessary funds for this work he took advantage of his position as transfer agent of the New York and New Haven, and issued about $2,000,000 of spurious shares. This was discovered in 1854, and in the investigation which followed it was found that he had also overissued shares of the New Haven and Northampton and the Naugatuck railroads, though to only a small amount in each case. On the Harlem, the transfer agent had likewise overissued shares to the extent of over $275,000, but with this fraud Schuyler was not concerned.[7] The same year, an investigation of the Vermont Central disclosed the fact that the president of that company had issued over 10,000 shares beyond the amount authorized by the charter.[8] The discovery of these frauds caused a panic throughout the country, and resulted in the action taken by the New York stock exchange requiring that all share certificates be signed by two officials, and registered and countersigned by an independent bank or trust company. This has effectually prevented a recurrence of the offense. Charter limits had not been exceeded

[6] Report of the commissioners appointed to investigate charges against the directors of the Delaware and Raritan Canal and Camden and Amboy Railroad, Appx., Statement "E." (1850.)
[7] *Hunt*, XXXI, 207; Ackerman, "Hist. of Illinois Central," 57-9.
[8] Annual report, 1854.

upon the Harlem, and the company recognized without hesitation its obligation for the unauthorized issue. The New York and New Haven, however, asserted that as the shares were illegally issued, they were void. The company thereupon became involved in litigation which continued for over ten years. In 1864 the directors offered to accept two of the spurious shares in exchange for one new share, and to increase the share capital of the company to provide for such an exchange. Over half of the fraudulent issue was redeemed in this manner.[9] In 1865 the court declared that overissued shares were void, whatever the circumstances of their issue. It also held, however, that when as in this case the overissued certificates were signed by the officer having authority to sign and issued by him to persons who accepted them in full faith, the corporation was liable for the act of its agent.[10] The loss to the corporation through the Schuyler frauds finally amounted to over $1,600,000.[11]

[9] Annual report, 1864.
[10] N. Y. and N. H. v. Schuyler, 34 N. Y. 30. (1865.)
[11] Annual reports, 1866-8.

CHAPTER VII

PROTECTION OF THE CORPORATE ESTATE AS A FUNCTION OF MANAGEMENT

The Protection of Capital.—The protection of the corporate estate is a factor of first importance in the consideration of management, whether from the point of view of the investor, the public, or of the corporation itself. The literature of economics and politics is replete with discussions as to the social advantage of lending encouragement to the assembling and conservation of capital. Notwithstanding this active interest in the subject, the importance of the administrative aspects of protection of capital seems to have been little appreciated even by corporation managers themselves.

The Law of Property.—Laws for the protection of capital are as old as government. The distinction between the concepts of capital and of non-capital or current assets was first recognized in the laws and customs of inheritances. There was, however, no clear definition of the concept of capital as such. In the laws and instruments of conveyances, also, there was no clearly marked distinction between these two varieties of assets, but as legal principles became established, their essential difference came to be recognized.

Inheritance and Remainder Interests.—The extent to which these principles were recognized appears from an examination of the English common law as applied to remainders. To use a familiar example: A conveyance was made which devised an estate to B for a term of years; remainder to C for life; remainder to D in fee. The estate so devised might be possessed and used in turn by B and C, but the courts were most rigorous in their guar-

dianship of the remainder interest or fee. First B and then C were viewed as holding the productive property—the capital—in trust, being entitled to the product only. Contemporaneous with this development but of broader application was the evolution of the law of waste, the end of which was to protect from depletion an estate in the possession of one person but in which others had an interest. Even where the remainder was contingent or made to depend on an event which was doubtful or uncertain, the capital would be fully protected against waste, depreciation, or other preventable loss while in the hands of the possessor.

The Law of Uses.—Another class of laws and customs may be mentioned; the law of uses. Uses existed in Roman law under the name of *fidei commissa.* They were introduced by testators to evade the municipal law which disabled certain persons, such as exiles and strangers, from being heirs or legatees. The inheritance or legacy was given to a person competent to take, in trust, for the real object of the testator's bounty. As originally applied, the devisee of the estate was held to be the owner in fee, without any obligation whatever on his part to fulfill the terms of the grants, since it was contrary to law. A testator making such a will relied wholly on the personal integrity and good faith of the one to whom the estate was granted. The evident justice and lofty social purpose of such a grant finally commended itself to the government in a manner to cause a special court to be created for the purpose of enforcing uses. The same device was introduced in England to evade the statute of mortmain. A use was a legal estate held by one person for the benefit of another, the conditions being that the person holding the same should give to the beneficiary the profits, and dispose of or transfer the legal title as directed by the beneficiary.

The Law of Agency and Trusteeship.—After the enact-

ment of the statute of uses in England, trusts came to supplant them, and to give a still broader application to the principle. By the common law of trusts the legal estate went to a trustee, but the exact conditions of the devise were enforceable in the courts of equity. The law of trusteeship has been the one most frequently invoked in the protection of capital. It is applied to every relation where a community or remainder interest is involved or where an agency has been established which places the legal title to property in the hands of a trust. In some instances statute law has enlarged this to include possession. If protection to property require it, an agency or trust will be implied. For example, if partnership capital be invested in land for the benefit of the company, though it may be a joint tenancy in law, equity will hold it to be a tenancy in common and as forming a part of the partnership fund; the better opinion would seem to be that equity will consider the person in whom the legal estate is vested as trustee for the whole concern.

Corporation Law.—From this viewpoint, corporation law may be considered as a special adaptation of the law of trusteeship. A corporation is an organized community of trusts. The proprietors of the corporation are its shareholders. The corporation holds the legal title to properties and stands in the relation of debtor to those holding its credit obligations. Although the proprietorship of a corporation is complete in every detail, so far as the right to use and dispose of property is concerned, it has a trust relation, first to creditors and second to shareholders. The board of directors of a corporation are trustees; in this capacity they act as the direct representatives or agents of shareholders, and direct the affairs of the corporation which is the legal trustee for the properties. The officers of the corporation are trustees, being responsible, under the direction of the board, for possession and for the

administration of the details of its business. All the employees of a corporation, in so far as they have custody of property, are trustees. There is not a proprietary or operative relation of a corporation which is not subject to all of the limitations and protection of the law of trusteeship. It differs from other trusts in that whereas an ordinary trust is defined by the terms of the grant or contract entered into at the time that the trust is created, the terms of corporate trusteeship may be constantly altered to suit the conditions and conserve the highest business advantages of the enterprise. This adjustment can come about: (1) through action of the shareholders in obtaining the amendment of the charter and as expressed by resolution affecting the powers and duties of officers and agents; (2) through action of the board of directors, in the amendment of rules governing officers and as expressed by resolution establishing or determining the policy of the corporation; or (3) through administrative direction of officers acting within the limits of the powers granted by the charter and by the board.

Provisions for Protection of Corporate Capital.—The several classes of trusts established in corporate organizations are clearly defined. The principle has been definitely established in corporation law that only officers who are specified in the act of incorporation may bind the corporation; no other person or officer can act as its agent in the particulars designated. Directors and officers of a corporation acting beyond their powers, whereby loss inures to the corporation (as in the disposing of property or the paying of money without authority), may be required to make good the loss out of their private estates. The common law of trusteeship as applied to every corporate relation is complete. As a principle of common law, corporate agents will not be permitted to allow the corporate estate to become depleted through unauthorized acts on their

part, through waste or even through the declaration of dividends to shareholders. Any reduction in capital, except by some uncontrollable circumstance such as "the act of God" must be by formal action taken on the part of the proprietors themselves, sanctioned by law or by such procedure as is prescribed by statute or by acts of incorporation. Following the common law, special supplementary legislation is to be found in nearly every state, making it unlawful to declare dividends out of capital, making more definite and certain the amount of recoverable damages, enlarging the criminal code to apply to abuses of corporate powers and the neglect of corporate duties, and furnishing such other protection to the corporate estate as is necessary to prevent injustice to creditors and the weakening of corporate activities through the subdivision or distribution of properties and funds which are intended for capital use.

Prerequisites for Enforcing the Law.—With all these legal provisions for the protection of capital, the first prerequisite of management is ability to distinguish between capital and the other assets of the corporation; the second is familiarity with the facts governing their own responsibility, which is essential to obedience to the law. Where the ends of justice have been defeated, where corporate agents have arbitrarily disposed of corporate estates, where dividends have been declared out of capital, where there has been violation of law and the courts have failed to protect the shareholder or others interested in the estate against the arbitrary acts of officials whose acts have depleted the capital, it has been not from lack of law but from lack of evidence to support the rights of beneficiaries. This suggests as a corollary the conclusion that knowledge of facts and familiarity with the statutory provisions relating to accountability for capital are essential to management.

Information Necessary to Protection of the Corporate Estate.—In the United States the chief defect in corporation laws has been the failure to require that the administrative agents of corporations shall prepare, preserve, and make available such evidence of transactions and other acts of trustees as is necessary to establish responsibility. The whole subject of records and accounts has remained in a state of neglect. For enactments at all adequate for the enforcement of common and statutory law principles of corporate trusteeship, we must look to Great Britain. These laws may be classified as follows:

I. Provisions for making available evidence necessary to the enforcement of corporate trusts
   1. Laws requiring that a complete record of transactions be kept
   2. Laws providing for the current verification of evidence recorded
   3. Laws requiring the publication of summaries of evidence.

II. Provisions for the preservation of evidence of breach of trust
   1. Laws making the falsification of records of trusteeship a misdemeanor
   2. Laws making the destruction of records a misdemeanor
   3. Laws making false statements a misdemeanor.

An important beginning was made in Great Britain by the passing of the companies clauses consolidation act in 1845, which provided that "The directors shall cause full and true accounts to be kept of all sums of money received or expended on account of the company by the directors and all persons employed by or under them, and the matters and things for which such sums of money shall have been received or disbursed and paid."[1] Since that time

[1] 8 and 9 Vict., c. 16, par. 115. This was also fully implied

this has been accepted as a primary principle of British company law. The general injunction was repeated and enlarged upon in the companies act of 1862.[2] This act required a full account not only of receipts and disbursements but also of assets and liabilities, revenues and expenses, and profit and loss.

Early Forms of Capital Accounts.—If accounts are to be used as a medium for the current collection of evidence necessary to the protection of capital, it would seem to be a foregone conclusion that a definite classification should be established to which all such data must be related. In the United States this was never required until the interstate commerce commission began to exercise the authority conferred upon it by congress in 1906. The rules prescribed by this commission, however, do not provide for two capital accounts, nor have the railroads established such accounts for their own information. The British companies act of 1862 evidently had such an end in view, but the framers did not perceive the difference between capital and obligations incurred in obtaining capital. The balance sheet prescribed, however, did require that in accounting for "property and assets" the cost should be stated with deductions for deterioration in value as charged to the reserve fund or profit and loss. The form prescribed for stating capital liabilities follows:

I. *Capital* (showing)
   1. The number of shares
   2. The amount paid per share
   3. If any arrears of calls, the nature of the arrear, and the names of depositors
   4. The particulars of any forfeited shares.

in the gas works clauses act of 1847 (10 and 11 Vict. c. 15, par. 38) and in the water works clauses act of the same year (10 and 11 Vict. c. 17, par. 83).

[2] 25 and 26 Vict., c. 89, sched. 1, table A, par. 78.

II. *Debts and Liabilities of the Company* (showing)
1. The amount of loans on mortgages or debenture bonds
2. The amount of debts owing by the company, distinguishing:
   a. Debts for which acceptances have been given
   b. Debts of tradesmen for supplies of stock in trade and other articles
   c. Debts for law expenses
   d. Debts for interest on debentures or other loans
   e. Unclaimed dividends
   f. Debts not enumerated above.

III. *Reserve Fund* (showing)
1. The amount set aside from profits to meet contingencies.

IV. *Profit and Loss* (showing)
1. The disposable balance for payment of dividends.

V. *Contingent Liabilities*
1. Claims against the company not acknowledged as debts
2. Moneys for which the company is contingently liable.

In 1868 parliament seems to have had a clearer view of the capital account. Among the forms of accounts prescribed by the regulation of railways act [3] is the following:

RECEIPTS AND EXPENDITURES ON CAPITAL ACCOUNT

	Amount Expended to	Amount Expended During Half Year	Total
To Expenditures—			
On lines open for traffic	......	......	......

[3] 31 and 32 Vict., c. 119, sched. 1.

On lines in course of construction	......	......	......
Working stock	......	......	......
Subscriptions to other railways	......	......	......
Docks, steamboats and other special items	......	......	......
	......	......	......
To Balance			......

	Amount Received to	Amount Received During Half Year	Total
By Receipts—			
Shares and stock	......	......	......
Loans	......	......	......
Debenture stock	......	......	......
Sundries (in detail)	......	......	......

More Recent Requirements for Statement of Capital.—This form of account had the advantage of correlating all capital receipts and capital expenditures, of carrying forward a total cost of capital resources to date, and of showing how the capital was procured. The gas works clauses act of 1871,[4] the electric lighting act of 1882,[5] and subsequent acts have somewhat more definitized the capital account, and carried forward the results in forms of balance sheets required by law as more specifically defined by the board of trade.

Defective in Form but Adequate in Effect.—These accounts, however, are still lacking in that they are designed to show original cost, reserves for depreciation and loss being set up in another place. But so far as the subject of present interest is concerned, the statutes of Great Britain contain provisions for the collection of all the evidence necessary to the protection of capital invested in railroad and other corporate enterprises. They also provide for other evidence necessary to the enforce-

[4] 34 and 35 Vict., c. 41, sched. B.

[5] 45 and 46 Vict., c. 56.

ment of legal principles of corporate trusteeship, such as relations of current asset and liability, current operative results, profit and loss, surplus, dividends, etc.

Provisions for Independent Verification of Statements.—The possession of properties and funds as well as the keeping of accounts are necessarily entrusted to officers and employees of the corporation. For this reason it is important that legal provisions be made for independent verification of facts recorded and reported. In this respect the American law is deficient; and again we must look to Great Britain for an example. By the companies clauses consolidation act, it was provided that "Except where by the special act auditors shall be directed to be appointed otherwise than by the company, the company shall, at the first ordinary meeting after the passing of the special act, elect the prescribed number of auditors, and if no number is prescribed two auditors, in like manner as is provided for the election of directors. . . . He shall not hold any office in the company, nor be in any manner interested in its concerns, except as a shareholder. . . . The directors shall deliver to such auditors the half-yearly or other periodical accounts and balance sheet. . . . It shall be lawful for the auditors to employ such accountants and other persons as they may think proper, at the expense of the company, and they shall either make a special report on the said accounts, or simply confirm the same."[6] The requirements of this and other early British acts were found to be inadequate in some respects. In 1862 the companies act made the powers and duties of auditors more specific. Auditors were continued as the independent representatives of the company appointed by the shareholders. As a matter of organization the first auditors were to be appointed by the directors, but all subsequent auditors were to be appointed

[6] 8 and 9 Vict., c. 16, par. 101-8.

by the company in general meeting. It was made as obligatory to appoint independent auditors as it was to elect officers, and if auditors were not elected in the manner prescribed, it was made the duty of the board of trade, on application of not less than five shareholders, to appoint auditors for the current year and fix their remuneration. Auditors were required to examine the balance sheet, with the accounts and the vouchers relating thereto, and to make a report to the shareholders upon the accuracy of all statements of fact contained in the accounts. Powers were conferred upon the auditors to have furnished to them a full list of all records. Officers were required to give to the auditors access to records at all reasonable times, and in case explanations or information were requested from the directors or officers, the auditors were to report to the shareholders whether such explanations and information had been satisfactory.[7]

Verification of Capital Account.—In 1867, the railway companies act provided that "No dividend shall be declared by a company until the auditors have certified that the half-yearly accounts proposed to be issued contain a full and true statement of the financial condition of the company, and that the dividend proposed to be declared on any share is *bona fide* due thereon after charging the revenue of the half year with all expenses which ought to be paid thereout in the judgment of the auditors; . . . and the auditors may examine the books of the company at all reasonable times, and may call for such further accounts and such vouchers, papers, and information, as they think fit, and the directors and officers of the company shall produce and give the same as far as they can, and the auditors may refuse to certify as aforesaid until they have received the same; and the auditors may at any time add to their certificate, or issue to the share-

[7] 25 and 26 Vict., c. 89, sched. 1, table A, par. 83-93.

holders independently, at the cost of the company, any statement respecting the financial condition and prospects of the company which they think material for the information of the shareholders.''[8]

Protection of Shareholder and Creditor, the Central Thought.—The British law is not only most ample in requiring of corporate trustees that a full and true record be kept of all transactions reflecting their acts and responsibility, and that an independent verification be made of such records, but, what is quite as essential to the protection of shareholders' and creditors' rights, that this evidence when collected and digested shall be placed in the hands of the beneficiaries of the trust. Furthermore, the responsibility of the author for the truth of statements made over his certificate was definitely fixed by making him personally liable to fine and imprisonment for wilful false certification. The companies act of 1862 provided that ''A printed copy of such balance sheet shall, seven days previously to such [regular] meeting, be served on every member [shareholder].''[9]

Statutory Provisions for Preservation of Evidence.—Consideration should be given to British requirements for the protection of the records themselves. Important among these is the larceny act of 1861, which provides that whenever a director of any body corporate shall, with intent to defraud, omit to make a full and true entry of a transaction by which any of the property of the company shall be diverted to an improper use, shall be guilty of a misdemeanor.[10] And again, ''If any clerk, officer, or servant, or any person employed or acting in the capacity of clerk, officer or servant shall, wilfully and with intent to defraud, destroy, alter, mutilate, or falsify any book, pa-

[8] 30 and 31 Vict., c. 127, par. 30.
[9] 25 and 26 Vict., c. 89, sched. 1, table A, par. 82.
[10] 24 and 25 Vict., c. 96, par. 82-3.

per, writing, valuable security, or account which belongs to or is in possession of his employer, or has been received by him for or on behalf of his employer, or shall wilfully and with intent to defraud make or concur in making any false entry in, or omit or alter, or concur in omitting or altering, any particular from or in any such book, or any document, or account, then in every such case the person so offending shall be guilty of a misdemeanor."[11]

To protect the shareholder and the public still further against misinterpretation and failure of duty on the part of corporate trustees, section 84 of the larceny act provides: "Whosoever, being a director, manager, or public officer, of any body corporate, or public company, shall make, circulate, publish or concur in making, circulating or publishing, any written statement of account which he shall know to be false in any material particular, with intent to deceive or defraud any member, shareholder or creditor of such body corporate or public company, or with intent to induce any person to become a shareholder or partner therein, or to entrust or advance any property to such body corporate or public company, or to enter into any security for the benefit thereof, shall be guilty of a misdemeanor," the penalties therefor being as above set forth. All of these several classes of legal provisions are frequent, it may be said general, in American statutes.

THE DOUBLE BALANCE SHEET AS AN INSTRUMENT FOR PROTECTION OF CAPITAL

If we are to be logical in our concept of capital, if we are to construct a statement of the resources and liabilities of a company according to the spirit and intent of the common law of corporate trusteeship and statute law restraining the officers of corporations from declaring dividends out of capital, we must look upon the capital funds

[11] 38 and 39 Vict., c. 24.

and resources as a part of the estate reserved for continuous or permanent, productive use. Following good accounting practice, assets which are reserved for a definite use should be set up as a separate fund, against which the obligation creating the reservation may be stated. In case of trust funds, this practice is universally recognized. Capital in contemplation of law is a trust fund in the hands of the officers.

British Law Requires Separate Account.—In American corporate practice, however, the capital of a railroad corporation has not been treated as a trust or reserve fund, and it may be said that while British statute law has required for capital a separate account, as has been pointed out, the prescribed form of accounting is not wholly consistent. The form of capital account described above calls for a separate statement of the original cost of capital resources, opposed to which is a statement of the several sources from which the capital has been obtained. The law also contemplates that all proper charges against revenue account shall be set up in the determination of profits, and as a condition precedent to dividends, but these expense charges when in the nature of depreciation reserves and losses of capital due to casualty and unforeseeable causes, are not required to be included in the capital account. The capital receipts and expenditures alone are entered, while depreciation reserves and capital losses are required to be stated in the consolidated balance sheet, where they are entered without distinguishing such capital reductions from current assets and liabilities. To get at true results, the balance sheet must be analyzed and a new capital account constructed.

American Practice in Violation of Principles of Law.—American practice has been many times more vicious in that in most railroad financial statements, there has been no attempt to distinguish capital resources from current

resources, and there has been no regard for the truth even in the statement of the amounts and sources of capital actually obtained by the corporation. Common law principles of trusteeship and statutes for the protection of capital against impairment are openly violated without any fear on the part of corporate managers of their being held to account. In many instances shareholders are as uninformed after reading a published balance sheet as if none had been rendered. Dividends have been declared out of capital; corporate estates have been wasted; railroads have been reduced to bankruptcy by their officers without any suggestion either in accounts or reports as to the facts. And while this was being done, shareholders and creditors have been led to believe that the corporation was in a sound financial condition. Corporate estates have been managed for the benefit of trustees; published statements have been used for the manipulation of the stock market and the enhancement of private fortunes through stock deals; in fact, the whole purpose of one transportation enterprise after another has been subverted to the private interests of those who were in possession and who alone knew the facts. Even directors have been so ignorant of the true state of affairs that the officers have been permitted to act in open defiance of public law and business morality for years without even arousing a suspicion. All of these practices have been made possible, not by reason of any defects in the principles of law by which corporate trustees may be held to strict account, but by reason of lack of information as to the facts.

Exact Information a Primary Necessity.—American shareholders, creditors, and the public as well as legislators have failed to appreciate the importance of information as a basis for judgment. Until there is a clear perception of the true nature of the capital account, not only may we expect that American capital

will not be protected, but corporate management itself may be misled. Officers desirous of performing their full duty toward the trust in their hands may consent to the wasting of the corporate estate. Without a true statement of capital account, corporate administrators may not only fail to protect vested interests, but all their calculations and the calculations of the public as to cost of operation, charges at which service may be profitably rendered, net returns or surplus available for distribution in dividends, may be ill founded; and steps taken, supposedly in the interests of the corporation or of the public, may tend toward ultimate failure, the discredit of the officers, and the impairment of the property. Until we arrive at a capital account which will protect corporate investments, we may not hope for the greatest success in the management of the great undertakings in which American savings have been embarked.

Interstate Commerce Commission Balance Sheet.—Even those who have been most vigorously opposed to the idea of government supervision of the affairs of corporations must concede that much good has resulted from the orders promulgated by the interstate commerce commission to govern the methods by which railroad corporations shall keep accounts and present reports of financial condition and of the results of operation. Until 1907 there was no standard classification of assets and liabilities and no uniformity of practice in accounting and reporting; each railroad employed the method which best suited its officers. In 1909 and 1910 the interstate commerce commission prescribed a form of general balance sheet.[12] In the preparation of this order it was confronted with conditions which made it difficult to reach even a tentative conclusion which would not operate with undue severity upon

[12] Interstate Commerce Commission, Form of General Balance Sheet as Prescribed for Steam Roads, first issue 1909, first revised issue 1910.

one or another of the corporations concerned. It therefore invited suggestions from interested parties in order to bring out all the factors of the problem. Upon the assumption that the subject is still open to discussion, it is submitted that there are certain essentials to good judgment and certain definite elements which are yet to be taken into account before all parties in interest may be supplied with the basis for full and intelligent consideration of the problem of management of the estates of those corporations which are charged with the responsibilities of public carriers. These, it is further submitted, may be best supplied through the double balance sheet, the purpose of which is to make possible a showing of the capital account separate and distinct from the statement of current or working assets and liabilities. The form of summary consolidated balance sheet is offered for consideration as a means by which the essential relations of capital and non-capital assets and liabilities may be presented. (See page 128.)

This outline or summary consolidated balance sheet is expanded to include all of the items prescribed by the interstate commerce commission on the pages following. In venturing such a re-arrangement the writers are conscious of doing violence to certain accepted theories. Furthermore, they are conscious of certain inconsistencies. These, however, are largely due to certain practices which have grown up in American railroad accounting and financing in violation of principles of good management. Good management would insist on a strict accounting for invested capital and the protection of an entrusted estate—an estate in which the people who are served and the government as the agency of general welfare have quite as much at stake as have the investor. The interests of all demand that ultimately a careful account be kept which will enable the interests of public and investor to be harmonized on a plane of equity and fair dealing.

SUGGESTED FORM OF

CAPITAL ASSETS (Investments and Funds)

1. Invested capital			$81,000,000
a. Road and equipment (cost) ...$55,000,000			
Less reserve for accrued depreciation	5,000,000	$50,000,000	
b. Securities (net cost)		30,100,000	
1) Pledged:			
a) Proprietary, affiliated, and controlled companies	20,000,000		
b) Issued or assumed	10,000,000		
	30,000,000		
2) Unpledged:			
a) Proprietary, affiliated, and controlled companies	100,000		
c. Other investments (net cost)..		900,000	
1) Advances to proprietary, affiliated, and controlled companies	100,000		
2) Miscellaneous investments...	800,000		
a) Physical property...$100,000			
b) Securities pledged.. 400,000			
c) Securities unpledged 300,000			
2. Capitalized Fund Resources			$19,000,000
a. For working capital (provided for by issues of securities and appropriations from surplus.—See current account)		11,500,000	
1) Appropriated from proceeds of securities	9,500,000		
2) Appropriated from surplus....	2,000,000		
b. For construction and equipment.		500,000	
1) Cash	100,000		
2) Securities	400,000		
c. For additions and betterments.		500,000	
1) Cash	50,000		
2) Securities of company in treasury	150,000		
3) Work in progress and advances on contracts not completed..	200,000		
4) Security deposits	100,000		
d. For insurance		1,000,000	
1) Cash	100,000		
2) Investments	*900,000		
e. For providence to employees.....		500,000	
1) Cash	100,000		
2) Investments	*400,000		
f. For sinking fund		5,000,000	
1) Cash	100,000		
2) Investments	*4,900,000		
Total capital			$100,000,000

* Note—Of the capitalized funds, the following amounts have been invested in securities issued by the company: (a) the insurance fund, $800,000; (b) the providence fund, $300,000; (c) the sinking funds, $4,900,000; total $6,000,000. For details, see schedule.

CAPITAL BALANCE SHEET

CAPITAL LIABILITIES (Sources from which Funds Were Obtained)			
1. Obligations to creditors for capital:			
a. Mortgage, bonded debt, and secured debt			$34,500,000
1) Funded debt		$36,300,000	
a) Mortgage bonds	$10,000,000		
b) Collateral trust bonds....	21,000,000		
c) Revenue bonds	2,000,000		
d) Equipment trust obligations	2,000,000		
e) Miscellaneous funded obligations	1,000,000		
f) Receipts outstanding for funded debt	300,000		
g) Less unextinguished discount on securities......		4,000,000	
h) Unextinguished premiums on outstanding funded debt		2,000,000	
2) Receivers' certificates issued for		100,000	
a) Construction and equipment	50,000		
b) Additions and betterments	50,000		
3) Matured secured liabilities unpaid		100,000	
1) Plain bonds, debentures, and notes		4,000,000	
b. Unsecured credit liabilities			6,100,000
2) Obligations for advances		1,000,000	
a) Construction and equipment	500,000		
b) Additions and betterments	500,000		
3) Open accounts		1,000,000	
a) Construction and equipment	500,000		
b) Additions and betterments	500,000		
4) Matured unsecured liabilities unpaid		100,000	
2. Obligations to shareholders for capital:			
a. Capital shares issued (amount authorized $60,000,000)........			41,000,000
1) Par value of shares issued ..		50,000,000	
a) Common shares	20,000,000		
b) Preferred shares	20,000,000		
c) Debenture shares	5,000,000		
d) Receipts outstanding for installments paid........	5,000,000		
2) Less discounts on shares issued		10,000,000	
3) Premiums realized on sale of shares		1,000,000	
b. Appropriations to capital from surplus for			18,400,000
1) Construction and equipment .		5,000,000	
2) Additions and betterments...		4,900,000	
3) Capitalized reserves		8,500,000	
a) Insurance	1,000,000		
b) Providence for employees.	500,000		
c) Sinking funds	5,000,000		
d) Working capital	2,000,000		
3. Temporary advances from current account			000,000
Total obligations for capital			$100,000,000

SUGGESTED FORM OF

CURRENT ASSETS AND ITEMS IN SUSPENSE:

1. Available for payment of current liabilities			$15,000,000
a. Cash		$ 7,000,000	
1) Deposits subject to draft......$	5,900,000		
2) Special deposits (working funds)	100,000		
3) In transit—agents and conductors	500,000		
4) Working funds in hands of agents	400,000		
5) Other cash and cash items...	100,000		
b. Marketable securities		6,000,000	
1) Issues in treasury for working funds	5,000,000		
2) Other	1,000,000		
c. Credit assets		2,000,000	
1) Loans and bills receivable....	400,000		
2) Traffic and car service balances due from other companies	500,000		
3) Net balance due from agents and conductors	700,000		
4) Temporary advances to proprietary, affiliated, and controlled companies	100,000		
5) Miscellaneous accounts receivable	100,000		
6) Accrued income not due	100,000		
7) Other current accounts available to meet liabilities when due	100,000		
2. Available for future expenses only..			2,000,000
a. Expense advances................		1,000,000	
1) Rents and insurance prepaid..	500,000		
2) Taxes paid in advance	400,000		
3) Other expense advances......	100,000		
b. Materials and supplies		1,000,000	
3. Temporary advances to capital account			000,000
4. Debit items in suspense.............			3,000,000
a. Unaudited and undetermined claims and assets accrued or accruing	500,000		
b. Properties abandoned chargeable to operating expenses........	2,000,000		
c. Other suspense or deferred debit items	500,000		
Total current assets and items in suspense			$20,000,000

CURRENT BALANCE SHEET

CURRENT LIABILITIES, RESERVES, AND SURPLUS

1. Current liabilities			$ 3,700,000
a. Due and payable		$ 2,000,000	
1). Unmatured interest, dividends and rents payable..........$	100,000		
2) Traffic and car service balances due to other companies	500,000		
3) Audited vouchers and compared wages	500,000		
4) Working advances due to other companies	400,000		
5) Miscellaneous accounts payable	100,000		
6) Matured interest dividends and rents payable	400,000		
b. Maturing or accrued and not due		1,700,000	
1) Loans and bills payable.....	1,000,000		
2) Taxes accrued and not due..	100,000		
3) Unsettled and contested claims and liabilities accrued or accruing	500,000		
4) Other credit items	100,000		
2. Reserves against current assets and items in suspense			14,900,000
a. Operating reserves		400,000	
b. Working capital reserves		11,500,000	
1) Appropriated out of surplus..	2,000,000		
2) Appropriated out of proceeds of sales of securities........	9,500,000		
c. Reserve for debit items in suspense		3,000,000	
3. Unappropriated surplus			1,400,000
Total current liabilities, reserves, and surplus			$20,000,000

SUMMARY CONSOLIDATED BALANCE SHEET

CAPITAL ACCOUNT

ASSETS			$100,000,000
1. Invested capital		$81,000,000	
Road and equipment	$50,000,000		
Securities and other investments	31,000,000		
2. Capitalized funds		19,000,000	
LIABILITIES AND RESERVES			$100,000,000
1. Obligations to creditors for capital		$40,600,000	
Secured	$34,500,000		
Unsecured	6,100,000		
2. Obligations to shareholders		59,400,000	
Subscribed capital	41,000,000		
Appropriations to capital from surplus	18,400,000		

CURRENT ACCOUNT

ASSETS			$ 20,000,000
1. Available for payment of current liabilities		$15,000,000	
Cash	$ 7,000,000		
Other	8,000,000		
2. Available for future expenses only		2,000,000	
3. Debit items in suspense		3,000,000	
LIABILITIES AND RESERVES			$ 20,000,000
1. Credit liabilities		$ 3,700,000	
Due and payable	$ 2,000,000		
Maturing or accrued, not due	1,700,000		
2. Reserves against current assets and items in suspense		$14,900,000	
3. Unappropriated surplus		1,400,000	

CHAPTER VIII

FINANCIAL CONSIDERATIONS IN MAINTENANCE AND ADDITIONS AND BETTERMENTS

Problems of Management.—The three primary problems of management are maintenance, or the protection of capital resources from the effects of waste and of wear and tear; operation, or the use of the organization and capital resources so as to return to the corporation the largest profit consistent with its purposes; and distribution of surplus, or the appropriation of the net profits of operation in a manner which will best conserve the interests of all parties concerned, whether to increase capital resources or to make a return to the shareholders in the form of dividends.

MAINTENANCE

Elements of Maintenance.—The principal subjects of administrative responsibility pertaining to maintenance, or the protection of the corporate estate, are displayed as separate items in the form of balance sheet set forth in the preceding chapter. These subjects are: "road and equipment"; "securities of other corporations," whether proprietary, controlled, or affiliated; "investments in properties and enterprises not directly concerned with transportation," and "capitalized funds." From the viewpoint of finance, maintenance has to do with expending or setting aside out of earnings or income, amounts adequate for up-keep, i.e., sufficient to preserve the integrity of the invested capital or funded estate. From the viewpoint of management, maintenance has to do with determining what amounts should be provided for each variety of property or capitalized fund representing the

investment or funded estate. The administrative considerations incident to the protection of the first of the classes above specified, viz: "road and equipment," fall under two general classifications, maintenance of way and structures, and maintenance of equipment. The cost of both is a necessary part of operating expenses. The determination of maintenance requirements is a problem of great complexity, on account of the number and variety of properties which must be considered. Upon its managerial side, maintenance may be classified under the heads, "repairs," "replacements," and "depreciation."

Repairs and Replacements.—If only such amounts should be withdrawn from revenues as are needed to repair parts which have become broken or worn out in service, the capital would be rapidly depleted. A large part of the wear and tear incident to operation cannot be repaired. Every train which passes over a track removes a thin film of steel from the surface of the rail. Every stroke of the locomotive and every revolution of the wheels contributes to the gradual wasting of the property. Rains and droughts, frosts and thaws alike have a disintegrating effect upon the materials of the roadway, structures, and equipment. When the property is kept in the best current repair that is practicable, there is still much to be done. Current financial provision must be made, therefore, for replacement when necessary, whether from considerations of safety or of economical operation.

Depreciation.—In order that the wear and tear, or physical deterioration which may not be currently repaired may be adequately provided for, an amount sufficient finally to replace the property in its original condition may be set aside out of revenues. This may take the form of a renewal or depreciation fund, against which renewals are to be charged when made. Such a fund, if adequate, should cover every element of wasting assets. Patent

rights expire; types of cars and locomotives become antiquated; bridges and tunnels are found to be too small to accommodate larger and heavier trains. Hence arises the necessity of setting aside out of current revenues of sufficient funds to protect the capital investment and to insure safe and economical operation of the property.

A capital account which shows nothing but the invested capital as represented by different classes of properties does not furnish sufficient information for the manager, nor does it permit the investor to judge intelligently as to the efficiency of the management. Actual estimates based upon experience should be prepared to show what amounts should be set aside or expended for maintenance. There should be property records and maintenance accounts which will show in detail the experience of a period of years, and also whether these estimated requirements have been met; and inspections and appraisals by engineers should be made from time to time to correct any possible errors in the estimates. If any of these precautions is not observed or if the method of assembling and presenting the required information is unsatisfactory, the corporation and the interest of the investor may be seriously endangered.

What, under the interstate commerce commission rules, is called "renewals account," is merely an adjustment account to which is charged that portion of the capital assets going out of use which has not been covered by the depreciation charges up to the time of its retirement. To the renewal account is also credited any amount which may be received as salvage.

Maintenance of Subsidiary Properties.—The investments in securities of proprietary, controlled, and allied corporations also should be fully set forth. The capital account should show not only their original cost but also what provision has been made for extinguishing any dis-

count, or for amortization of any premium on bonds which have been provided. Shares, whether acquired above or below par, even when carried at cost, cannot be adequately protected unless the managers of the invested estate maintain careful watch over the properties which they represent and over the manner in which they are operated. Good management, also, would require careful consideration as to the relative advantage of retaining control of subsidiary properties, or of providing like facilities through purchase or construction. We are concerned with the asset account "other investments," which in the interstate commerce commission classification comprehends four classes of property investment: (1) advances to proprietary, affiliated, and controlled companies; (2) investments of a permanent nature in physical property other than that held for the operation of the company's property as a transportation agency; (3) securities of companies and organizations pledged as collateral; and (4) securities of like nature which are held unpledged. As advances to controlled companies are unsecured, there is need for care that those companies be protected from the danger of foreclosure by secured creditors. There is need for care, also, that construction, equipment, and additions and betterments financed through advances, shall add a proper amount to the value of the subsidiary property. Investments in physical property not concerned with transportation—mines, lands, industrial plants, etc.—should be made with the same care and foresight. When such properties are once purchased, the protection of the investment requires that adequate provision be made out of revenues for repairs, replacements, and depreciation. Management of securities pledged as collateral requires that the margins be kept up, so as to avoid the possibility of loss through forced sale. Whether securities are pledged or

unpledged, ample provision should be made for the amortization of any premium or the extinguishing of any discount on the bonds.

Maintenance of Capitalized Funds.—Management of capitalized funds requires that attention be given to the setting aside out of revenue or the funding of amounts sufficient to protect the company from accruing obligation for which reserves are made; also to the investment or use of these funds in such manner that they may not be impaired. There are several classes of capitalized funds maintained by a railroad: working capital funds, construction and equipment funds, funds for additions and betterments, sinking funds, employees' insurance, provident, and pension funds, and property insurance funds.

Working Capital Funds.—A working capital fund is an amount provided or appropriated for use as working assets of the company. A full account of investment would suggest that the trustees appropriate from contributed capital or surplus such amount as might be used to advantage as a working fund. This is now required of bankers under the national bank act, thereby making it necessary that the officers of the company show whether they have protected the working capital or allowed it to become impaired. In American railroad practice, in fact in corporation practice generally other than banking, insurance, and trust companies, this has not been done. Assuming a distinct funding act on the part of a board of directors, and assuming that a separate capital account is kept, not only would the capital account show the amount of the investment to be accounted for as working capital, but the statement of current assets and liabilities would also appear in such form of statement as to show all parties concerned whether the fund thus set aside is being currently maintained. To determine the status of working capital, it would be necessary to

show not only cash and accounts receivable available for meeting current liabilities, but also the investment represented in "assets available for future expenses only." With current assets at realization value, as an offset to current liabilities and reserves including the working capital reserve, the resulting balance would show either the amount of surplus available for further capital use or for dividends or the amount by which the working capital has been impaired.

Construction and Equipment Funds.—A capitalized fund for construction or equipment may be created from the proceeds of sales of securities or by appropriation from free surplus. Without definite acts of appropriation and without a capital account, the management of the company is left free to render any account of amounts available which may best suit its purpose. When such a fund is created, outlays for construction or for equipment are chargeable against it so long as a balance remains. The protection of the investment lies in permitting only such charges as are in the nature of new construction or new equipment. As the fund is depleted, the capital becomes represented in the road and equipment account.

Funds for Additions and Betterments.—A fund for additions and betterments is of the same character; and it may be created in like manner as construction and equipment funds. If the amount chargeable is less than two hundred dollars for any improvement, considered as a whole, the interstate commerce commission allows the option of charging the amount expended to operating expenses as a renewal or to the appropriate account under additions and betterments. This, however, does not apply to right of way and station grounds, real estate, sidings and spur tracks, terminal yards, or fencing right of way.[1] In

[1] Interstate Commerce Commission, Classification of Expenditures for Additions and Betterments, first revised issue, 1910: 18.

practice, definite appropriations are seldom made to this fund, and before the new classification became effective, each railroad management accounted as it chose for investments of this sort.

Sinking Funds.—A sinking fund is a fund created by setting aside out of assets or out of accumulated profits, sums of money to provide for the payment of all or a part of the principal of a debt. This may be done either by placing stated amounts on deposit to accumulate at compound interest, or by paying the money to sinking fund trustees, thus putting the fund out of reach of the directors. A sinking fund may consist of either cash or securities. Cash on deposit, however, will yield but a low rate of return. It is customary, therefore, to invest the sinking fund in securities, sometimes of other corporations but usually in the corporation's own securities, and as far as practicable in the very issue of bonds for which the fund is created. Investment in the securities of outside corporations involves an element of risk, for the yield cannot be expected to be as great except at the sacrifice of security. The method of purchasing the corporation's own bonds gives absolute assurance of security.

Bonds for the sinking fund may be purchased upon the open market, or by drawing by lot at a price specified in the mortgage. One method tends to advance the market price to a figure at which purchase may be possible only upon terms which are not to the advantage of the fund; the other is frequently the cause of hardship to the investor, because it tends to keep the market price down and because of the uncertainty as to the time when any particular bond may be called by the trustees. Once purchased, the securities may be canceled and thus taken from the liabilities of the corporation, or they may be held by the sinking fund, in which case the sinking fund receives the regular installments of interest.

As a railroad property is permanent in character, there

is a difference of opinion as to whether it is desirable for a railroad corporation to adopt a sinking fund policy; but for those corporations which have not shown a tendency to maintain a high standard of efficiency through liberal appropriations out of earnings for permanent improvements, there can be little question that this indirect but certain method of providing for redemption of funded indebtedness will serve to strengthen credit.

There is a close relation between sinking fund and depreciation. The maintenance of a sinking fund is generally considered as practically equivalent to a depreciation charge. If, therefore, a corporation provides both for a sinking fund against its bonds and for charges for depreciation of the properties representing those bonds, the net result is the same as if an appropriation had been made each year to increase the capital surplus by the amount of the sinking fund increment, instead of leaving the amount as unappropriated profit to be distributed in dividends. This tends to conservatism upon the part of the management.

Employees' Insurance, Pension, and Provident Funds.—Many American railroads have established insurance systems and pension systems for the benefit of their employees, and a few have established employees' savings institutions. These two classes of provident funds should be carefully distinguished; the first is in the nature of an appropriated capital fund of the company, established to give continuance and stability to a policy which aims to encourage employees to continue in the service of the road, and to protect the road against unusual and uneven charges in the execution of this policy; the second is in the nature of a trust; to be held as such; to be set apart and not considered as a part of the capital of the road. As payments and deposits are received from employees, a separate trust would be set up, with respect to

which the management would be held responsible under the law of trusteeship. The capitalized fund created by the company, however, would give much wider latitude to administrative discretion. Either of these funds may be managed by a board of trustees chosen for the purpose, in some cases by the employees and in others jointly by the employees and the board of directors of the railroad.[2] In the case of the company provident fund, the money thus set aside may be invested and payments made out of accumulations of interest only, or the fund may be treated as an insurance or pension reserve. The annual cost of administering such a funding system is borne in some cases by the railroads as a part of regular operating expenses; in others by the funds themselves. Investment is usually made in securities of the particular railroad concerned, for reasons already given in the discussion of sinking fund investments. Pension funds are usually financed wholly by contributions or appropriations from the earnings of the company, and as a matter of policy the employees have no part in their control. Furthermore, while in some cases the funds are set aside as investments and supplemented when necessary; in many others they are maintained wholly by regular, annual appropriations, which are also charged to operating expenses. In the latter case the stability of the funds is measured by the credit of the corporation as a whole, and not by bonds or liens on specific properties. In effect, therefore, by this method the funds are carried in the form of added investment in the general assets of the company itself, against which is set up a reserve. As such they may be made to produce larger returns than could be obtained with safety through investment in securities. The drain upon the railroad is therefore correspondingly less.

[2] Commissioner of Labor, Annual report, 1908, "Railroad Relief Funds," 271-383; Riebenack, "Railway Provident Institutions," Philadelphia. (1905.)

Property Insurance Funds.—Considerations similar to those which have been advanced with reference to pension funds apply to those funds which some railroads have established for carrying insurance upon their property, whether to the exclusion of all outside insurance or in addition to such protection. The general theory is that as a railroad owns so many widely separated properties, by setting aside an amount each year to cover the risk of destruction by fire, flood, and the elements, it may insure itself much more cheaply than if the insurance were purchased, thereby distributing any extraordinary loss over a series of years.

ADDITIONS AND BETTERMENTS

Definition.—Adopting the definition formulated by the interstate commerce commission, additions and betterments comprehend "additional land, buildings, structures, and facilities, not taking the place of any property of like purpose previously held by the accounting carrier; the cost of newly acquired equipment; the cost of improving land, buildings, structures, facilities, and equipment by additions thereto not involving the replacement of the property improved; the excess cost of improving buildings, structures, or facilities (except land and equipment) over the cost of replacing in kind structures and facilities of like purpose demolished, abandoned, or withdrawn from service; and the necessary credits to represent property abandoned, sold, or otherwise retired from service." [3]

The economic motive for providing funds for additions and betterments is the desire to increase net earnings. The circumstances giving rise to the demand is inadequacy of facilities for handling traffic by the company seeking funds and the danger of competition by other companies

[3] Interstate Commerce Commission, Classification of Expenditures for Additions and Betterments, first revised issue, 1910: 13-4.

which may be attracted to the field, or which being within the field and better equipped, may offer to perform services at a lower rate of cost. The initial capitalization of practically all railroads, however ample it may have been considered in particular instances, has been found to be insufficient to provide for means necessary to meet the increasing demands of traffic.

Reduction of Operating Expenses.—There has been a constant tendency, especially marked in the last twenty years, toward the use of cars of greater capacity and an increase in the number of cars per train. The introduction of heavier equipment has necessitated the purchasing of locomotives of greater power and the reconstruction of roadway and structures. Bridges have been rebuilt, trestles filled in, miles of road ballasted, and tracks relaid with rails of greater weight. Long sections of original roadway have been abandoned for new locations in order that steep grades and excessive curves might be eliminated. As a result, the ratio of paying traffic per car and per train has been greatly increased, and economical operation has been facilitated. A locomotive which formerly wasted much of its power in pulling a light train *up* and *around,* may now earn a larger revenue because it can pull a heavier train *along.* The importance of the subject has been universally recognized; and the statutes now generally authorize the exercise of the right of eminent domain and the increase of capitalization to provide for improvements and extensions.

Notable Changes Effected by Harriman.—While all railroads have been engaged in work of this nature, the Union Pacific may be cited as one which, within little more than a decade, has been largely rebuilt. As it was originally subsidized by the mile and built by construction company methods, there was little incentive for its builders to choose a direct course, or to construct anything but the cheapest

sort of road. Under the Harriman régime the maximum grade was reduced from ninety-four to forty-four feet to the mile, long trestles were replaced by solid embankments, and new equipment was added. Other improvements are now being effected. The Lucien cut-off on the Central Pacific is one of the most remarkable examples of betterment work in the world. Instead of following in a circuitous course the northern margin of the Great Salt Lake, the track now extends across the water on fills and trestles. The operative result of this may be appreciated from the fact that by the building of 103 miles, there have been eliminated forty-four miles of distance, 1515 feet of vertical climbing, and 3919 degrees of curvature—equivalent to more than ten complete circles.

Capitalization of Improvements.—In England the investor's demand for protection of his interests and for comprehensive reporting of facts pertaining to railroad properties and their management have materially influenced both corporation law and practice. Railroad managers in presenting accounting statements were early required to discriminate with exactness between expenditures properly chargeable against capital funds and those which might be properly applied to operating expenses. As a means of making these requirements effective, the English law requires that the accounts be audited by accountants chosen by the shareholders and responsible solely to them. The accounts must show how the money for capitalized expenditures is obtained; whether through the issue of shares, bonds, or short term notes, or by appropriations from surplus. Information concerning additions and betterments presented in this manner has given the investor a clear insight into the affairs of the corporation, and it has kept before the management the necessity of maintaining a conservative attitude toward the finances.

In America the practice has been entirely different.

Until within recent years the real investor has been kept in the background because of the activity of shareholders whose chief concern was the development of local transportation facilities or the control by shareholders of another class whose primary interest lay in the stock market. In cases where state and local governments have held railroad shares, the public officials have interested themselves but little in the details of management so long as the demands of local traffic have been met. As a result, the quality of the management has reflected the attitude of the less conservative among the shareholders. It has been the practice to pay dividends whenever possible, and to strive at the same time to make a good showing in the financial reports. The situation has been complicated by the fact that shareholders have been unwilling to increase their investment, and also by the fact that all railroads have been under the necessity of constantly bringing the physical condition of their property up to higher standards, notwithstanding the fluctuations in earnings corresponding to periods of general business activity and depression. Under these circumstances arose the common practice of failing to distinguish between expenditures for operation and maintenance on the one hand and additions and betterments on the other. Each railroad adopted whatever policy seemed advisable, and none has consistently followed any one policy through a long period. Additions and betterments add to capital assets; and recognition of this fact is necessary for the intelligent consideration of questions involving the relations of earnings to expenses and of net earnings, surplus, and dividends to capital investment and to public service. No good purpose can be accomplished by hiding increases of capital assets by means of charges for additions and betterments out of current earnings.

Need for Additional Protection to Investors.—If addi-

tions and betterments are to be provided for by means of issues of bonds or of shares or by means of appropriations from surplus and considered as increasing the assets, it is of practical importance to determine what expenditures are for maintenance and what are for additions and betterments. If they are to be made without resort to issues of bonds or of shares, the amount so expended appearing as a direct charge against surplus will not be declarable in dividends, for by showing the amount of surplus so appropriated, a hidden surplus becomes impossible. Expenditures for additions and betterments which are charged out as expenses leave all intelligent consideration of this important question to operating heads; in many instances all knowledge of the facts is confined to them. A correct method of accounting and reporting brings these matters to the attention of the board of directors, and makes necessary the report of such expenditures as result in an increase in the corporate estate. From the point of view of technique, the difference in the method of accounting may seem to be of small importance, but it may be of highest significance from the point of view of administrative and investment judgment. A correct method of reporting may change the entire attitude of the investor toward the management. A proper appreciation of the facts may change the attitude of the public and of national and state governments toward the corporation; it may make possible the payment of dividends however large when they are actually earned, and prevent the establishment of a hidden surplus which might be used for purposes of manipulation to the detriment of the interest of the investor.

Surcharged Maintenance Accounts.—Many railroad managers have made it a practice to pay regular dividends, and to keep to themselves the essential facts concerning the corporation. When revenues were large they expended

large amounts in rehabilitating the property, and charged them to expenses. When revenues were small, they reduced such expenses to a minimum. Railroad officials differ as to the best policy of reducing expenses under such conditions. Some claim that by maintaining equipment at a high standard of efficiency, even at the expense of the roadbed, a railroad will be best prepared to take advantage of the first improvement in business. Others maintain that it is unprofitable to spend money upon repairs to idle equipment, but extremely necessary to keep up the permanent way; for with a rush of new business it is difficult to repair roadbed, track, and bridges which have been allowed to run down. By this method it has been possible to maintain regular dividend payments. In justification of this practice the argument has been advanced that there can be no adequate judgment as to what may constitute a standard of efficiency of any given railroad without thorough consideration of the circumstances affecting other lines similarly located, and that it should be left to the management to determine whether specific expenditures should be considered and charged as maintenance or as additions and betterments. But accepting the statement of fact, the conclusion does not necessarily follow. While competing lines must have facilities for meeting competition as well as for serving the public, this is no good reason for concealing from trustees and investors the facts as to capital cost, and the returns to be expected from their investment. Fluctuations in earnings have also been urged as an argument against carrying depreciation accounts as an element of expense on the one hand, and on the other, as an argument for charging additions and betterments to expenses. Again the facts as stated may be true; there may be wide fluctuation in earnings. But this does not warrant the conclusion that for this reason the management should pro-

vide for the payment of dividends by failing to meet expenses, which means payment of dividends out of capital, or by hiding a surplus out of which dividends may be paid without interruption. The net result of these methods is to provide for additions and betterments out of surplus without showing the facts to investors, and conversely, to pay dividends out of a hidden reserve, or where there is no such reserve, out of capital, basing such action upon facts known only to those in the company's management.

Tendency to Abuse.—The Southern Pacific was managed in this manner. Beginning in 1906, a dividend was declared for the first time upon the common shares, and this dividend was paid out of "betterments and additions charged to income account in the years 1898, 1899, 1900, and 1901." Of like order, but on a more colossal scale, was the spectacular revision of the Chicago and Alton accounts in the reorganization of 1900, when the records of the company were entirely recast, and every item for extraordinary expenditures which had been previously charged into the operating account and thus carried as a hidden, invested surplus was made available in surplus for dividend distribution. The aggregate of such charges, which were in the nature of secret appropriations from surplus, was found to be over $12,000,000 during a period of thirty-five years; and upon the basis of this showing, about half of the amount was distributed as an extra cash dividend to the small financial group which had acquired control. Such operations have been made impossible by the provision in the Hepburn act of 1906 which gave to the interstate commerce commission power to enforce its regulations and to require companies to furnish annual reports which shall show in detail "the amounts expended for improvements each year, how expended, and the character of such improvements." Under the new system, the reports must show the exact location of the property.

Every railroad has expenditures which, while not con-

cerned with operation or maintenance, add little to earning power. Safety appliances, block signals, improvements to station grounds and buildings, call for large sums, yet they yield no measurable return. For this reason it is sometimes claimed that they should not be considered as additions to property, and capitalized. If it be assumed that they come within the definition of additions and betterments, it is apparent that if capitalized they tend only to reduce slightly the potential net earnings on the investment as a whole. To hide such expenditures in costs of operation or of maintenance does not alter the fact, and it can serve no good purpose, from the standpoint of the management, the investor, or the public.

Reserve Account for Extraordinary Expenditures.—Much betterment work is of a sort which cannot be foreseen; therefore expenditures on this account at times may be so large as to threaten the solvency of a weak company. Floods may destroy large sections of roadway or carry off equipment and valuable waterfront property, the immediate effect being to decrease capital assets, reduce the surplus, or increase the deficit. Immediate replacement in such an event cannot be considered as chargeable to expense. If not provided for by new capital subscription (new capital to take the place of that which has been lost) the restoration may be gradual by appropriation from surplus, or by appropriation from net income, if the surplus has been wiped out and the corporation is operating with a deficit. The capital loss may thus be gradually replaced and its replacement apportioned over a series of years without appeal for new subscriptions, and without resort to bond issues.

Legislatures may require the elimination of grade crossings or railroad commissions may require reconstruction of condemned property or the adoption of special facilities, an increase which must be regarded as in the nature

of capitalization whatever the means of financing. Ordinary business foresight, therefore, would dictate the financing of extraordinary expenditures of this nature in such a manner as would be suggested or required for capital funding, with due regard for repairs, replacements, and depreciation as charges against the reserve of present and future years. To this end it is the practice of many railroads to deduct from the net income of each year an amount, arbitrarily determined by the directors, which is appropriated toward a reserve fund against which capital replacements and permanent improvements may be charged. In some cases one reserve fund is maintained for additions and betterments to way and structures and another for the acquisition of additional equipment, but many railroads provide for expenditures of both sorts out of a single reserve. Few companies, however, follow the practice of the Chicago, Milwaukee, and St. Paul, which makes provision for financing such expenditures by maintaining a cash fund on special deposit.

Variation in Practice Among Representative Roads.—There is much variation in the methods followed. The Great Northern, in order not to surcharge operating expenses, has always made scant provision for maintenance, but it has appropriated large amounts from net income to a betterment fund. The Pennsylvania maintains a large fund for extraordinary expenditures, but in some years it has also charged off from surplus large amounts for replacements and additions to property. Some railroads, notably the Delaware and Hudson, and the Delaware, Lackawanna, and Western, provide for practically all such expenditures by means of direct charges against the surplus. All of these practices are based on arbitrary discretion instead of strict definition of additions and betterments, and most of them have resulted in the arbitrary writing down of the investment.

Direct Charges Against Surplus.—Some railroads, particularly those which are parts of large systems, have followed the practice of charging against current earnings not only such items as should be treated as additions and betterments, but also many which should be capitalized. That this is unfair to the shareholders is obvious; for it burdens the earnings unduly, and may interfere with the payment of dividends when dividends are earned. It may be safely assumed that it is of little or no interest to the ordinary shareholder that the property in which he has an interest is steadily becoming more valuable, or that his investment is menaced by appropriations from surplus, if he does not share in its prosperity by regularly participating in dividends. But the shareholder often has had no way of knowing whether earnings were sufficient to pay dividends, for he has been given only such details of expenditures as the directors have chosen to publish. The query of Collis P. Huntington, as to why the shareholders of the Pacific Mail should care whether they received their dividends in money or in ships may here be cited as exceptional in foresight, but it does not justify the attitude of proprietorship which railroad presidents have often assumed in dealing with matters concerning which their shareholders have had a right to the fullest knowledge. Minority shareholders in subsidiary railroads have often had cause to believe that operating expenses have been excessively charged with expenditures for additions and betterments. While they are entitled to dividends of only such amount as may be set aside for distribution, they have been without access to information as to the amount of surplus which may have been expended for additions and betterments, and such information is essential to any estimate of the investment value of shares.

The New Official Classification of Accounts.—The accounting rules of the interstate commerce commission now

require that carriers shall keep an account for additions and betterments. This account is divided into thirty-five primary accounts, one of which is concerned with interest and commissions on securities issued to provide for additions and betterments, while the others relate to the various properties affected.

Provision Against Understatement of Operating Expenses.—As has been explained by Doctor Henry C. Adams, this account is a complement to the equipment depreciation account.

> The purpose of a depreciation account, is to guard against the overstatement of net revenue by failure to include all the costs of operation in operating expenses, while the purpose of the additions and betterments accounts is to guard against the understatement of net revenue by including in operating expenses as a cost of operation what in fact is an improvement to the property. . . .[4] This does not mean that shareholders are denied the liberty of improving their property out of current revenue. That is a matter of policy, and not of accounting. It does mean, however, that in case shareholders approve the policy of improving property out of current revenues, the expenditures on account of such improvements should be charged in the income account, and not included in an account the chief purpose of which is to measure cost.[5]

[4] Adams, "Railroad Bonds as Securities from National Banks," 5.

[5] Interstate Commerce Commission, Statistics of Railways, 1906: 11.

CHAPTER IX

SOME FINANCIAL ASPECTS OF OPERATION

Operation Concerned With Net Earnings.—The operation of a railroad is primarily the domain of the president. In directing operation, the president must have constantly in mind the attitude of the board of directors, which represents the interest of the shareholders. Within recent years the president has had to conform to the requirements of the government as the agency which exists to promote and protect the welfare of the people whom the railroad must serve. From the viewpoint of the board of directors the railroad president as operating head is governed by the equation:

Earnings—Expenses=Net Earnings

In each factor of this equation, both the investor and the people have a vital interest. What these two factors shall be has always been the principal cause of contention between the railroads and the public.

Earnings and the Rate of Transportation.—The elements which enter into the first factor—Earnings—are (1) rate of transportation, and (2) volume of traffic. While these elements are interdependent, they may be separately considered. The rate charged for transportation is not only of highest importance to the road, but on it also depends the prosperity of every enterprise which is to be served. It was the high cost of transportation by wagon road and by canal that brought the railroad into existence. It was prospective lower cost to producer and consumer that led the people, through their governments, to incorporate railroads and to grant franchises. It was, however, the pros-

pect of obtaining an equitable share in the profits to the community that led the investor to capitalize the undertakings and to assume the risks of construction, maintenance, and operation. The rate question, therefore, must continue to be a subject for joint consideration so long as the railroad remains in private hands. The administrative problems of rate making need not be considered here, as they are fully discussed in another volume.[1]

The public interest in railroad charges demands that transportation rates must be fair in themselves; also that they must be fair as between commodities and classes of commodities, as between shippers, and as between places. The exercise of government authority over rates has tended in some instances to raise the level of rates and so to increase earnings. This has been the effect of putting an end to the giving of rebates and of free transportation. But now that congress has declared that the burden of proof shall be upon the railroads to show that proposed increases in rates are just and reasonable, the effect must be to set a limit to earnings.

The tendency to increase expenses and at the same time to diminish earning power necessarily imposes grave responsibilities upon those who are charged with the management of railroads; for fixed charges must be met and reasonable profits must be obtained for distribution among the shareholders, else railroad securities will lose their attractiveness to investors. It is therefore the problem of the management to determine how this situation is to be met.

Earnings and the Volume of Traffic.—Volume of traffic is a field for almost unrestrained initiative on the part of the operating head. This is qualified only by the interest which the people have in other aspects of maintenance and operation. So important is this element to the earnings

[1] Johnson and Huebner, "Railroad Traffic and Rates."

of the road that it is put under separate management. In many instances the enterprise of the traffic manager has gone to such length that in the public interest it must be restrained; thus where, as a means of increasing traffic, rate-cutting, pooling, or other forms of manipulation are attempted, the result has been to disturb or to restrain trade and thus seriously to handicap production. While there are certain wholesome restraints to be exercised over the traffic manager in his effort to increase traffic, there is a wide range of activity within which competition continues unhampered. Traffic is necessarily made up of the products of persons who are engaged in industrial pursuits. Unrestrained competition for traffic may be carried on along several different lines: (1) providing facilities for the development of local resources; (2) coöperating with local trade bodies and with those interested in building up centers of population; and (3) establishing such connections and providing such facilities as will promote through traffic.

The railroads which serve the newer parts of the country have taken steps to encourage immigration into their territory by means of extensive advertising both in this country and in Europe, and by offering special rates to homeseekers and settlers. Land grant railroads have generally sold their lands to settlers at low prices. Many railroads have been active in the fostering of agriculture through the establishment of experiment stations, the circulation of educational literature, the giving of prizes, and the operation of agricultural trains and good roads trains. They have also provided locations for manufacturers and merchants, and collected and circulated information which tends to the utilization of undeveloped resources. This work is conducted by the traffic department in some cases; in others, by special departments established for the purpose. Town promotion has been another variety of opera-

tive enterprise which has been undertaken. A railroad may act directly, devoting to the development of a town a part of its own capital, or it may coöperate with local representatives to foster settlement and trade activity. The former method has not always resulted favorably. Thus Tacoma in its initial period was selected by the Northern Pacific as the site for its terminus on Puget Sound, and to its development the railroad directly contributed. Seattle, a rival trading town, was denied railroad connection, in order that Tacoma might be put in a position of relative advantage. By means of local coöperation, however, Seattle continued to grow, and eventually the coming of the Great Northern enabled it to compete upon equal terms. With the financial breakdown of the Northern Pacific, Tacoma necessarily suffered; while Seattle, with a solvent railroad interested in its welfare and with an energetic citizen body, assumed the position of leadership among the cities of the Pacific Northwest. When, eventually, the Northern Pacific finally decided to seek an entrance into Seattle, it found itself in the position of competing with other lines for terminal sites which had once been available at little cost.

One of the most serious problems of management, so far as earnings are concerned, is the acquisition of terminal facilities and the establishment of connections with other lines so as to increase through traffic. The financial risk involved in the entrance into a great city is well shown by the unfortunate experience of the Baltimore and Ohio in Philadelphia and of the Wabash in Pittsburgh. The Pennsylvania extension into New York was undertaken for the double purpose of opening a passenger terminal in the heart of that city and of establishing a closer connection with the New York, New Haven, and Hartford, so as to make it possible to run through freight and passenger trains between New England and points served by the

Pennsylvania; also through the Long Island railroad to obtain a favorable deep sea connection for European freight. Where there is already a physical connection between two railroads, it is possible to facilitate the development of through traffic by mutual agreement. Thus the New York Central's arrangement with the New York, New Haven, and Hartford for the handling of traffic over the Boston and Albany promises to benefit all parties concerned because of the more efficient use of existing facilities which it makes possible.

Expenses and Efficiency of Management.—The second factor in successful management is expenses. The test of ability to meet fixed charges and pay dividends is in the net difference between gross earnings and expenses, or net earnings. Turning to a consideration of expenses, we are confronted with the problem of economy and efficiency of management so far as responsibility may be fixed for contracting and purchasing, and for conducting physical operations. Economy does not mean reduction in expenditures, but obtaining the greatest possible return at the least outlay. Operating efficiency has no relation to rates of transportation. Whatever may be the rate charged for service, the operating head is responsible for performing that service in an economical and efficient manner, and with due regard to the interest of both the investor and the public.

Interest of the Public as Represented by Government.—As has been said, a railroad exists for the service of the public, and it is brought into existence because of the benefits which may accrue to the public. The state bestows upon the railroad the right to exist and to carry on business, and the granting of this privilege implies the retention of an equivalent right to dictate as to the manner in which that privilege shall be exercised so long as vested interests are not impaired. The interest of the public

may be more or less safeguarded in the charter or articles of incorporation, or in a general act governing incorporation of railroads. It may be further protected by supplemental statutes, and through orders of a board or commission established by the state and endowed with authority over the affairs of railroad corporations.

Uninterrupted Service.—The public is interested in having continuous operation of railroad facilities. To this end the state through the courts will take over a railroad when for reasons financial or otherwise an interruption of the transportation service is threatened. Similarly, it may take steps to bring labor disputes to a settlement, as the federal government has done through the Erdman act.

Adequacy of Service.—Public service must be adequate service. The public interest demands that equipment shall be available for all kinds of traffic; and that the carrier and not the shipper shall be expected to know the exact kind of equipment required in any particular case. It requires, also, that equipment be available when needed, and that it shall be furnished without discrimination as between shippers or places. The state authority has even been invoked to prescribe a charge for "reciprocal demurrage" as a penalty upon carriers for failure to provide a certain number of cars within a stated time, to move the cars a certain number of miles per day, and to deliver within a certain time—a measure of doubtful wisdom and expediency. Stations and yards must be provided to meet the demands of traffic. There must be ample facilities for the proper handling and storage of freight, and for delivery to connecting lines or to consignees. Passenger stations must be located at convenient points along the line, and train schedules must be arranged with due regard to the conflicting interest of through and local passengers.

Provisions for Health, Comfort, and Convenience.—A

railroad must make provision for the health, comfort, and convenience of passengers, and for the humane handling of live freight. Stations and cars must be furnished with proper heat, light, and water, and with ventilating and sanitary facilities. Rules must be made and enforced for the protection of passenger against passenger, as in the prevention of the spread of communicable diseases. Animals must be handled without cruelty, and proper provision must be made for supplying them with food and water, and with shelter when needed.

Safety.—Railroad operation must be conducted with ample provisions for the safety of passengers who may cross the right of way. There is a widespread movement toward the elimination of grade crossings, particularly in or near large centers of population, and for the guarding of those which remain. As a means of preventing animals and unauthorized persons from passing along the roadway, fences, cattle guards, and warning signs are necessary. As a means of protecting trains, interlocking signals and block signals have been installed upon lines where train service is most frequent, and these systems are being constantly extended. The equipping of cars with automatic couplers, power brakes, and with grab irons and other safety devices has been made compulsory by acts of congress, and the courts have made this legislation effective. Regulations have also been prescribed for the handling of explosives, and for the inspection of locomotive boilers. Because of the danger from smoke in tunnels, it has been found necessary to substitute electric power for steam locomotives in certain cases. In New York City this was required by statute; in the Hoosac tunnel in Massachusetts the railroad management itself took the initiative. It is a matter of public concern that the railroad employees responsible for the movement of trains be capable of working at a high state of physi-

cal and mental efficiency. To that end the hours of enginemen, train despatchers, and telegraph operators have engaged the attention of the legislative authority. Finally there is a growing tendency toward the enactment of statutes to govern the liability of railroads on account of accidents to their employees.

Not only is the public concerned with matters like those above mentioned, which admittedly lie within the scope of state regulation, but it is also interested in obtaining concessions from the railroads. All communities are desirous of having beautiful stations located in easily accessible places, while from the point of view of the railroad less elaborate buildings in cheaper locations might be adequate. Shippers and passengers wish fast service, though speed is progressively expensive and dangerous to life and property. Passengers, too, are constantly striving for more frequent train service.

The Manager as Employer and Contractor.—All of the foregoing have to do with the public which is to be served. In addition there are two other constituencies with which the manager must deal—those who sell labor, and those who sell materials and services other than personal. Railroad employees, who already receive over forty per cent. of gross receipts, are strongly organized; and through their "brotherhoods" they are able to present formidable claims for additional wages, for shorter hours of labor, and for more adequate provision for safety. Manufacturers and dealers in materials and supplies strive to maintain prices and to increase them, not only as a means of adding to their own profits but also as a means of compensating them for advances in the cost of labor and other factors in production.

Tendency to Increase Expenses.—The foregoing suggests the character of the problem of railroad management so far as tends to limit discretion and fix the conditions which

must be met through expenditures. From what has been said, it is apparent that there is a strong tendency to increase expenses, and that this tendency promises to become stronger rather than to diminish. Government regulations of railroads is no longer a debatable proposition but an established principle, and this applies to matters affecting physical operation as well as to traffic and rates; labor organizations have come to stay; the consolidation of industrial and trading concerns is a condition that must be met.

Opportunity for Economical Management.—While the management must recognize all these conditions as fixed and beyond its control, there are other aspects of the expense problem for which it has responsibility. It is responsible for the organization provided and the methods and procedure employed in contracting and purchasing; it is responsible for efficiency in the direction of physical operation and maintenance. Contracting and purchasing has to do with providing the men, the materials and supplies, and the equipment needed. Reduced to a formula, cost of operation and maintenance is made up of the following factors:

Direct Labor Cost + *Direct Material Cost* + *Indirect Cost* =*Expenses*

Each of these factors may be resolved into elements for managerial consideration. Direct labor cost depends upon: (1) rate per time unit; (2) number of time units employed; and (3) efficiency of labor. Direct material cost depends upon: (1) price of material; (2) quantity of material used; and (3) quality of material. Indirect cost is made up of a number of elements, all of which should be the subject of administrative judgment. Such are: (1) cost of administration and supervision; (2) pro-rata of maintenance charges, including repairs, replacements, and

obsolescence; (3) pro-rata of rentals of properties used and not owned, and interest on capital outlay for roadway, structures, and equipment; and (4) pro-rata of other items of overhead expense.

Labor Cost and Labor Efficiency.—As the greatest single item of railroad expense represents labor cost, attention will be naturally directed to the question of labor efficiency, since reductions in wages are clearly impracticable. With the increasing complexity of systems of railroad organization, the division officers have lost more or less of their former authority. The amount of their expenditures is determined in advance by higher officers, and they are judged as to efficiency by the relation which their earnings bear to those expenditures. As a result the men in charge are generally reluctant to make reduction in forces and expenditures when this could be done to the advantage of the railroad, because of the difficulty of obtaining authority for increases when the needs of the business require them. A corporation budget should be exactly apportioned upon the basis of careful estimates; but it should be capable of modification, also, to meet actual conditions for which the estimates have not made adequate provision..

Efforts to Promote Labor Efficiency.—Railroad service requires skilled workmen; and all railroads offer inducements to efficiency. Prizes are given to apprentices for satisfactory evidence of progress, and instruction for employees is furnished directly by agents of the railroads and indirectly through associations subsidized by railroads. Systems of promotion are maintained, and even the section gangs are encouraged to endeavor to obtain prizes offered for the best kept sections of roadway. In order to protect the railroad from losses through claims for freight lost or damaged, employees are urged to exercise all possible care in the handling of traffic; in order to keep the good will of the public, employees are urged to be courte-

ous in their attitude toward passengers and shippers. If it be desirable that railroad employees be trained to a high degree of efficiency, it is also desirable that they should be encouraged to stay in the service after they have been trained. To this end railroads have established relief systems, insurance systems, and pension systems for the benefit of employees, and joint committees of safety composed of employees and railroad officials.

Economical Purchase of Materials and Supplies.—Another large element of railroad operating cost is materials and supplies. It is the duty of the purchasing agent to keep constantly informed of market conditions and of the needs of the railroad which he serves. This he does through study of current periodicals, conferences with dealers, and examination of the requisitions which show the kind and quantity of materials or supplies needed, the purpose for which they are to be used, and the time when they must be available. He must also see that they are delivered where they are to be used or stored until needed, and he must attend to the sale of old materials. Some of his purchases are made under contract; others through open market orders placed after competitive bids upon detailed specifications. The purchasing agent is finally responsible for the inspection of materials and supplies in order to insure the railroad against loss through shortage or inferior quality. In this he is assisted by the other officers and employees, for it is generally required that users of material must report all cases in which there has been failure to conform to specifications. For their information and for the guidance of the purchasing agent, it is the practice of many of the operating departments to prepare printed specifications defining the grade of materials and supplies, and the tests which must be met. Various independent companies operate laboratories for the inspection, testing, and analysis of railroad supplies and materials, and some of the larger railroads have found

it economical to maintain laboratories of their own. The general storekeeper is usually subordinate to the purchasing agent. He is charged with the care and distribution of materials and supplies. He must endeavor to maintain his stock to meet all current demands, but he must also endeavor to have no more capital than necessary tied up in his stores.

Economical Use of Materials and Supplies.—In the use of materials and supplies there are opportunities for the exercise of economy. It has been found upon experiment that of the coal used in locomotives, only forty-five per cent. is utilized in effective work. As the railroads of the United States have an annual fuel expense of about $200,000,000, this represents a great waste. Much of this waste is not avoidable, however, because of necessary limitations of physical dimensions, and of conditions of operation. But while a locomotive cannot approach the standards of fuel economy possible in a stationary boiler, careless and inefficient firing may be eliminated through instructions to firemen, and through the establishment of coöperative relations between firemen and enginemen, so that firing shall be done at the proper time and so make it possible to reduce the waste of fuel [2] while the locomotive is standing idle either before or after a run.

Economical Use of Railroad Property and Equipment.—In the interest of economy it is imperative that the most effective use be made of railroad property, as that property is subject to overhead charges for interest, rentals, and depreciation. So far as proper service of the public will permit, cars must be loaded to the maximum capacity, train loads must also be increased, cars and locomotives of greater efficiency must be introduced, dead weight and light car and locomotive mileage must be re-

[2] See series of articles on "Opportunities for Economy on Railways," by L. C. Fritch in *Railway Age Gazette*, 1911-2: LI, 1059 *et seq.*

duced, and those speeds must be adopted which are most economical for the different varieties of traffic. The New York Central has increased by forty per cent. the efficiency of its Pennsylvania division through the substitution of twenty-six Mallet locomotives for sixty consolidated locomotives. It is now able to haul 1400 cars instead of 1000 cars per day over this single track line, and to effect a saving in fuel per unit of work. It has also found it possible to dispense with ten trains each way per day, and to reduce by eighty per cent. the amount of overtime. Instead of operating trains of 3500 tons at the rate of fifteen to eighteen miles per hour, it now hauls trains of 4000 tons at the rate of ten to fourteen miles per hour.

"Scientific Management" as a Factor in Economical Operation.—About twenty per cent. of railroad operating expenses represents the cost of maintenance of equipment. During the time that a car or a locomotive is being overhauled in the shops, it can earn nothing upon the investment represented by its cost. It is desirable, therefore, to reduce this period as much as possible. This has been done by the Atchison through the introduction of improved methods of shop management based largely upon the system employed by engineers of the "scientific management" group. The economies which were effected by this railroad, partly as the result of the adoption of this system, and partly from other causes, have led to the suggestion that it be introduced generally upon all railroads. This, it is claimed, would make possible a great reduction in the cost of operation.[3]

The guiding principles of the "scientific management" group of engineers as set forth by Mr. Frederick W. Taylor, are as follows:

[3] Interstate Commerce Commission, Evidence Taken in the Matter of Proposed Advances in Freight Rates by Carriers, VIII, 4756-803. (1911.)

First: A Large Daily Task.—Each man in the establishment, high or low, should daily have a clearly defined task laid out before him. This task should not in the least degree be vague or indefinite, but should be circumscribed carefully and completely, and should not be easy to accomplish.

Second: Standard Conditions.—Each man's task should call for a full day's work, and, at the same time, the workman should be given such conditions and such appliances as will enable him to accomplish his task with certainty.

Third: High Pay For Success.—He should be sure of large pay when he accomplishes his task.

Fourth: Lose in Case of Failure.—When he fails he should be sure that sooner or later he will be the loser by it.

When an establishment has reached an advanced state of organization, in many cases a fifth element should be added, namely, the task should be made so difficult that it can only be accomplished by a first-class man.[4]

In the application of these principles, each piece of work is carefully planned before it is undertaken. This involves a careful study to determine the simplest and cheapest possible method of performing the task. The next step is the preparation of a card of instructions for the foreman or the workman, prescribing in minute detail the manner in which the work is to be done. Once assigned to the work, the workman is supplied with the tools and materials needed for its performance. If he accomplishes his task according to schedule and in a satisfactory manner, he becomes entitled to a bonus. If he fails he is given personal instruction; and if he then fails he is assigned to other work for which he may be better qualified. Thus the workman is enabled to work under the most favorable conditions, and so accomplish more and earn more with less effort and in less time. Scientific management separates planning from performance; it re-

[4] Taylor, "Shop Management." Amer. Soc. of Mech. Engrs., *Transactions*, XXIV, 1368. (1903.) See also his "Principles of Scientific Management." (1911.)

lieves labor of all responsibilities of management; it provides for performance according to schedule; it requires current records of performance; and it requires standardized methods and equipment. Not only is the efficiency of labor increased, but the efficiency of material and of plant and equipment as well. The employer is thus enabled to make more effective use of plant and equipment, and to save in fixed charges upon his property. He gains through reduced labor cost resulting from the increase in the productive power of the workmen. This in brief outline is the claim of the advocates of scientific management.

The difficulties in the way of the general adoption of such a system by the railroads have been ably set forth and discussed by Mr. William James Cunningham, from whose article the following paragraphs are presented:

Obstacles in the Way.—The success of scientific management in commercial undertakings does not in itself prove that the new system would be equally effective in railroad work. The essential differences between railroads and manufacturing establishments must be borne in mind. These differences may be summarized under four headings: (1) area and extent of activity; (2) nature of product or output; (3) relations with the public and the Government; (4) relations with labor unions.

(1) The differences in area and extent of activity are obvious: the manufacturing establishment with its concentrated forces and intensive activity; the railroad with its long lines of communication, scattered units of organization, and extensive range of action. Railroad forces, spread out thinly over the line, necessarily work under scant supervision. . . .

(2) With respect to the nature of product or output, there are also distinct differences between an industrial establishment, with a uniform output, and a railroad repair shop, where there is little uniformity in the work. The cost of the work in a railroad shop is a small part of total operating expenses. Shop and repair work is *incidental* to the main function of producing transportation. The value or efficiency of railroad shop work depends upon how well it assists in the safe and expeditious movement of passengers and freight. It cannot be sys-

tematized to the same degree as in manufacturing shops. where the character of the work varies but slightly. Oftentimes, too, it is much more important that railroad repair work be done quickly than at the lowest possible cost. . . .

(3) Quite apparent, also, are the dissimilarities between railroads and private concerns in their relations to the public and governmental regulating bodies. A railroad is a public service corporation. The public rightfully demands that adequacy of service shall outrank the payment of dividends. A manufacturing establishment exists solely for profits. If it ceases to be profitable, it may close its doors or change the nature of its business. The operation of an unprofitable road must continue. It has two functions, public service and profit making; it may not neglect service to favor profits. Necessarily, therefore, methods are employed in the interest of public service even though they involve economic loss, and would not be resorted to if railroads were operated as private industries. . . .

(4) Perhaps the greatest barrier to the introduction of any system designed to accomplish savings which will diminish the number of employés is the labor organization. Practically every branch of the railroad service is strongly organized and militant. The manufacturer has his labor problem also; but he can close down his plant or lock out his men if he sees fit. With railroads, resistance to demands considered by them as unreasonable must not be allowed unduly to effect service. . . .

Any system or contrivance which has for its object the creation of competition among workmen, or which will cause them to exert themselves, is repugnant in principle to labor leaders. Its direct result, as they see it, is to "speed up," and to lessen the number of workmen. Their attitude is indicated by the strong opposition of the Brotherhood of Locomotive Engineers to the introduction of the Mallet compound locomotive. . . . The organization held out strongly for double pay, on the theory that the Mallet engine does twice the work of an ordinary engine, and, if ordinary engines were used instead, double the number of enginemen would be necessary. . . . Of similar significance are the organized efforts of conductors and trainmen to prohibit double-heading. By this is meant the practice of running two engines on a freight train so as to increase its length. The resulting decrease in the number of trains and the consequent smaller number of train crews are opposed by the men.

These difficulties, serious as they are, may be met by experts.

But the railroad man sees no definite plan for the application of the new "principles"; and he has a fondness for the concrete. After studying scientific management as applied to shops he realizes that when similar efforts are made to extend it to the whole line of railroad operation, long and expert study will be needed and new and unsuspected modifications of the system must be made to meet the exacting conditions of railroading.[5]

Managerial Responsibility of the Directorate.—The burden of economical management rests finally upon the board of directors quite as much as upon the railroad officers, for the directors must decide all important questions of managerial policy. They must determine, for example, whether manufacturing as well as repair work shall be carried on in the railroad shops, and whether repairs and improvements upon the roadway and structures can be made most economically by the regular employees or by outsiders. In general railroads have found that it is cheaper to purchase new equipment rather than to build it, but betterment work is often performed by contractors, and minor repairs to stations out on the line may be made by arrangement with local labor.

[5] Cunningham, "Scientific Management of Railroads," *Quar. Jour. of Econ.*, XXV, 549-55.

CHAPTER X

MANAGEMENT AND DISTRIBUTION OF THE SURPLUS

Control Vested in the Directors.—Net earnings lie primarily within the domain of the operating head of a railroad. Net income and other accruals and charges and reservations affecting the surplus account are primarily within the domain of the board of directors. In approaching the subject of management and distribution of surplus, it seems desirable to advert to those classes of considerations of the board of directors which are intermediate between net earnings and surplus. As has been stated, the result called net earnings is the amount of the operating return or earnings of a railroad remaining after deducting expenses—the net financial return to the corporation as a common carrier. Surplus, on the other hand, is the net amount which remains on the balance sheet after deducting from the total of assets an amount which represents the invested capital plus the current liabilities and cash reserves. Stated in the form of an equation:

Assets—(Invested Capital + Current Liabilities and Cash Reserves)=Surplus

Between the net earnings of any current fiscal period and the surplus of assets over liabilities and cash reserves lie all of those contractual relations and official actions which affect the properties and the obligations of the company which are not directly connected with its operations as a common carrier.

Scope of Authority.—Among the contractual relations

which lie within the realm of board discretion and affect the net income are those which have to do with (1) securities held; (2) properties and enterprises owned and operated but not as integral parts of the transportation facilities; (3) bonds outstanding for borrowed capital; (4) guarantees of securities issued by subsidiary companies; and (5) leases of roads and properties used by the corporation. In recognition of the non-operative character of these contracts, properties, investments, and obligations, and of the differences in official responsibility which attach to them, they are usually kept separate. Neither the accruals to the corporation nor the charges of these classes are carried to the operating account; instead, they are separately recorded and summarized in the income account, to which is also carried the net earnings. Stated in the form of an equation:

Net Earnings + (Income Accruals—Charges Against Income) = Net Income

This account therefore develops the net income or net investment return of the corporation, i.e., the return on its total investment.

But having developed the net income, there are still other increases and decreases in resources that are to be considered before the management may know what is the surplus to be disposed of—the net increase or net decrease in the assets. In other words, we have still to deal with the profit and loss account, to which is credited the net income, also the extraordinary increases less the extraordinary decreases in assets. Stated in the form of an equation:

Net Income + (Profits—Losses) = Net Profits

To the net income must be added the increases and decreases which are not the direct result either of executive

discretion or of the continued investment use of the estate, viz: the increases (or profits) due to the sales of securities and properties, the amortization of discount, etc.; the decreases (or losses) due to extraordinary accident, theft, fire, flood, etc. The current net profit or net loss when added to the balance remaining from prior fiscal periods becomes a fund which is subject to the direction of the board of directors, and as such is distributable to shareholders, if the board may so determine.

Uses Made of the Surplus.—Assuming that all the assets and liabilities are fairly stated in the accounts and that no action is taken by the board affecting net profits other than that of distribution to shareholders in the form of dividends and that dividends declared are paid, assuming further that there is no subscribed surplus, then net profits (or undistributed profits) as shown on the balance sheet would be a term synonymous with surplus. Such a condition, however, seldom obtains. In the first place, for reasons which may be sufficient to the management, the accounts may be so kept as to conceal instead of reveal the true condition of the corporate estate. Again, there may be a surplus which has not been accumulated through operation or from the investment accruals to the corporate estate, but through subscriptions; or, it may be thought to be the part of wisdom to appropriate amounts from undistributed profits for a definite corporate use, i. e., amounts may be set aside or be retained in the business or invested for some special purpose. Or, it may happen that not all the dividends declared are paid at the time a balance sheet is taken off. For any or all of these reasons the surplus may be divided and set apart for particular purposes. Each of these should be separately considered as a part of the problem of management and distribution of surplus.

"A Surplus," says Doctor Henry R. Hatfield, "by whatever name it may be called, represents additional capi-

tal (normally derived from profits), the purposes for which it is created may be any of those for which capital is needed, or it may be used, as profits ordinarily are used, to provide means for paying dividends."[1] Generally speaking, whether the surplus be hidden or shown on the face of the balance sheet, the proper purposes for which the surplus may be set aside by the board of trustees are the following: (1) to protect the corporate estate; (2) to improve the *esprit de corps* and increase the efficiency of the personnel of the service; (3) to increase the business of the corporation without increasing issues of share or credit capital; (4) to reduce the funded debt; and (5) to equalize dividends.

Protection of the Corporate Estate.—At the discretion of the board of directors, the surplus may be utilized to protect the corporate estate against impairment, through a series of continued operating losses. One method of accomplishing this end is to retain for the use of the corporation a margin of undivided profits to insure against losses which may be due to fluctuations in the volume of business, the net result of which might be to decrease the corporate estate. American railroad history affords many illustrations of the need for such precaution. The volume of business of the railroads is one of the best possible indexes of general business conditions. As business becomes more active, as manufacturing demands increase, almost in like proportion demands for transportation increase. Conversely every decrease in production decreases the demand for transportation. What are known as periods of prosperity and depression are reflected in railroad earnings with almost the same precision that they are on the transactions of commercial houses, such as banks and clearing houses. It goes without saying that the financial managers of the road should take into account such possibilities; that they would be consid-

[1] Hatfield, "Modern Accounting," 239.

ered short-sighted not to provide against an impairment of capital from such causes. Ordinary business foresight would suggest the desirability of keeping a margin of undivided profits, or of retaining in the business a fund which would serve to insure the corporate estate against impairment during periods of business depression. Failure to do this has been a common cause of receivership.

A second purpose for which a fund or reserve may be created out of surplus is to insure against casualties, such as fire, storm, flood, and accident, where insufficient provision has previously been made through current charges against revenue. In establishing the policy of the corporation and in managing its affairs, the board must decide whether the corporation will incur an expense in the nature of premiums paid to other companies for carrying such risks or carry the risk itself. Properties of a railroad are so widely distributed and so variable in character as to enable it with safety to its creditors and shareholders to carry its own risk at a much lower cost than it could be carried by other companies. By setting aside a fund, or carrying a reserve to insure itself against fire and other casualties, it is able to apportion or distribute losses evenly over a term of years without being required to pay the loading expense that is incident to obtaining insurance from other companies. When such charges are currently made, they would usually become a part of either the operation or income account. Such a fund, however, may be established by setting aside a part of the surplus.

A third purpose for which surplus may be distributed is to create a fund to recoup losses from bad debts or to serve as a reserve to protect the company against the infidelity of officers and employees. The reasons for the company's carrying its own credit and fidelity insurance are practically the same as those above set forth for carry-

ing its own insurance against casualties. The margin of saving, however, is very much larger, since the percentage of actual loss to the corporation from bad debts and from infidelity is relatively small compared with premiums which would be paid. This also may be accomplished by setting aside a part of the surplus.

A further provision may be made in like manner for protection of the corporate estate against depreciation due to failure to maintain the property against wear and tear and waste from the elements. In similar manner, provision may be made for losses or deterioration due to obsolescence of type of equipment or the expiration of patents or other rights. While ordinarily such a fund would be created and maintained as a charge in the nature of current expense, and as such would be a deduction from earnings, failure to make ample provision for such protection in the past may suggest to the board the advantage of direct appropriation from surplus.

Still another form of reserve is to be found in amounts set aside to protect the corporation against loss due to speculation in its securities, or to protect it against a temporary impairment of its credit. Usually this function is performed without a definite fund having been provided or appropriated. It is not an uncommon practice for a corporation's officers to watch the market in order that the price of its securities may not be unusually or harmfully depressed by traders who may seek to obtain advantage from a "raid." In some jurisdictions it is made unlawful for a company to trade in its own securities; in such event it would be unlawful to appropriate or set aside a fund to protect its securities against speculative or other trading. Generally speaking, however, a corporation which in a measure depends on issues of new securities for funds must take into consideration unfavorable as well as favorable market conditions. And it may be fur-

ther said that whenever it is desirable to make some definite provision for protecting the market price of its securities against depreciation, it is much better for the company to provide for funding such transactions than to have it done surreptitiously and without means of controlling the acts of officers who otherwise might utilize the financial connections of the company for personal profit.

Improvement of the Personnel.—The use of the surplus for the purpose of improving the *esprit de corps* or for increasing the efficiency of the personnel of the corporation takes several forms. Amounts may be set aside as a fund to indemnify employees for time lost and personal expense caused by illness, injuries, etc. The advantage of so doing is apparent. The sympathy and interest of employees is a valuable asset of the corporation. It not only tends to increase working efficiency, but it also enables the corporation to deal with employees on a more favorable wage basis. To the same end, funds may be provided or set aside as a pension fund. This may be done through an appropriation from surplus or through a direct charge against income. In like manner appropriations may be made for education, recreation, and social improvement of employees. Thus appropriations are made to local branches of Christian associations; social centers are established and maintained for the employees of a particular corporation; and contributions may be made to social organization and entertainment centers which are established and maintained for the benefit of several railroads.

Increase of Business.—More frequently than for other purposes the surplus is used to increase the business of the corporation without increasing its outstanding shares or bonded debt. To this end surplus may be appropriated for extensions into new territory for improving the facilities for doing business, for improving the road, for acquiring new equipment for use within territory already occupied,

for constructing or acquiring enlarged terminal facilities, or for acquiring properties and equipment which may be used in collateral enterprises such as steamboats, mines, quarries, and timber. Assuming that added properties or equipment are desirable, the board has before it the option of deciding whether new securities will be issued or a portion of the surplus applied to such use. Frequently such application is made, however, by the operating head, without the creation of a definite fund or reserve. Thus the same end may be reached as far as resources are concerned without affecting the balance sheet. Additional or improved bridges may be built, new rolling stock purchased, or new or improved stations and office buildings erected, and the cost may be charged directly to expenses, thereby creating a hidden reserve. Again, leaseholds may be acquired and treated as a charge against income account without directly affecting the surplus. The results of such practices are twofold; the expenses or charges against income are inflated without warrant, and the properties and assets thus acquired are carried as a hidden surplus, i. e., disappear from financial statements. The first result has the effect of misleading shareholders and the public both as to the cost of operation and as to the earning power of the enterprise. The second result is to enable the officers or other persons in authority who may have knowledge of the facts to manipulate the securities of the corporation to their own advantage.

Surplus may be set aside to increase the working capital of the corporation; for the purpose of increasing the cash, stores, and other assets available for handling the current business, or for increasing credit accounts of customers. Seldom, however, is this accomplished through a definite appropriation or funding measure, but usually, when the surplus is not hidden, through carrying the amounts as undivided profits or in the general surplus account.

A further use of surplus for increasing the business of the corporation is found in actions taken to purchase the securities of other corporations. This is one of the most effective methods of establishing connections and obtaining more effective working relations with other lines.

Reduction of the Funded Debt.—Many considerations may be present which would move a board of directors to appropriate or set aside funds for the reduction of the funded debt. Common among these is the contractual obligation established at the time bonds are issued, creating a sinking fund. Under such contracts, it is usually made obligatory to set aside a definite amount each year which when invested will provide the means for retiring bonds or mortgage indebtedness when due. Without such obligation having been entered into, however, and as a matter of policy, it may be deemed expedient to reduce fixed charges. When the business of the corporation is unusually large, the creation of such a fund may not interfere with the declaration of dividends which will be satisfactory to shareholders; and in time of business depression or lighter traffic, the fund may operate to increase the net income accruals or to decrease charges to such an extent as to protect the management from financial embarrassment and even make possible the payment of dividends. Such a policy would have the effect of giving to investment greater stability and to the management the means for using the necessary amount of earnings to keep the property in condition so that it will be able to handle the business when greater demands are made for traffic.

Equalizing Dividends.—More directly, dividends may be equalized by appropriating or setting aside a definite reserve. When a road is so located that it must depend for earnings largely on freight traffic and on long haul business, the fluctuations over a period of years may be so great that without such a reserve it would be impossible

to pay dividends without depleting the capital invested. This has been the experience of such roads as the Union Pacific and the Northern Pacific. As a result of efforts on the part of the management to keep securities on a dividend basis in periods of light business, the property was neglected and receivership followed.

All of these and still other funding purposes may be subserved by the board of directors in the exercise of their proper discretion in the management of surplus. The shareholders have no rights to any part of the earnings or profits until a definite fund has been set aside for distribution to them in the form of dividends. Even under financial arrangements which give to one class of shareholders preferred rights, they cannot be claimed until after the board has decided that the surplus shall be so used. Preferred shareholders simply have a prior right to dividends when declared; these rights to be exercised pursuant to contracts made at the time the shares were issued.

The limitations of discretion which are placed on the management in so far as they relate to the distribution of surplus are to be found in the contractual relations with creditors and other persons who have a right to demand payment without regard to the financial condition of the corporation.

Distribution of Invested Surplus.—When the surplus is put back into permanent properties, or invested or set aside as specific reserves for purposes other than dividends, it is not usually available for distribution to shareholders, for it becomes so far merged in the general assets of the corporation that it cannot be readily converted into cash. Under such circumstances the only methods which the board may utilize to enable them to distribute the surplus as dividends are either to issue bonds against the invested surplus, to declare share dividends, or to distribute certificates of beneficial interest in properties which are

not essential to the road. Thus in 1906 the Great Northern railway, through the subsidiary Lake Superior company, distributed among its shareholders certificates of beneficial interest in the iron lands in Minnesota which had been obtained in the interest of the railway company. The Buffalo, Rochester, and Pittsburgh, the same year, turned over the shares of the Rochester and Pittsburgh Coal and Iron company to the Mahoning Investment company, the shares of which were distributed proportionately among the shareholders of the railroad. In conformity with the requirements of the "commodities" clause of the Hepburn act, the Louisville and Nashville in 1908 divested itself of its interest in coal and timber lands by distributing among its shareholders, shares in the Louisville Property company. And the Delaware, Lackawanna, and Western railroad in 1909 similarly distributed shares in the Delaware, Lackawanna, and Western Coal company. A special dividend out of working capital may be declared when the assets so far exceed the liabilities of the corporation as to make the action one of distribution of profits unnecessarily withheld from shareholders. In such cases, however, there is need for the exercise of careful judgment to determine that the surplus is real. In other words, the directors should know that the apparent excess as shown by the accounts has not been the result of neglecting to make ample provision for expenses, including depreciation. The Chicago and Alton special dividend in 1909, which followed an adjustment of accounts and a calculation of outlays for betterments which had been made during a long period of years, is an illustration of the abuses which are possible when the element of depreciation is not properly considered in the distribution of surplus.

Dividends Representing Subscribed Surplus.—A surplus which has been obtained by subscription may be dis-

tributed as dividends provided there are no legal restrictions to the contrary. If, however, this part of the capital has been merged in the properties, the management labors under the same disability as it would with a similarly invested surplus which has been earned. Distribution can take place only by the issue of securities to the public for cash or by distribution of securities issued to shareholders.

CHAPTER XI

ACCOUNTS AND STATISTICS

The need for accounts is a need for information. With the development of a complex system of railroad organization and operation there arose the need for a department which, while itself handling no moneys, might account for the revenues of the corporation, prove the fidelity of those charged with collections and disbursements, and collect and present the data which is needed by the management. The trustees have special need for some agency which may report the result of administrative policies and the efficiency of operative officials. Furthermore, it has been found necessary to have an office of records and accounts which can prepare any statement required by administrative officials, either as a guide to management or as a report to the board and to shareholders and governmental authorities.

Development of the Accounting Department.—Railroad accounts were originally kept by the various departments. Freight agents balanced their accounts against each other before reporting to the general bookkeeper, who entered the final results of all subsidiary accounts in the general books of the company. There was no attempt at the preparation of statistics or of comparative statements, and the directors had for their guidance only the figures representing gross earnings, expenditures, and net income. In some companies the bookkeeper was subordinate to the general manager, in others to the secretary; in others, as in the New York Central, the treasurer was in control of the accounts; in fact, at one time or another in the history of the various companies this was the common organiza-

tion for keeping accounts. This private corporate practice followed the public concept of the "finance minister" as the proper person to keep and render accounts. Later, however, the evils of this practice became apparent. Under these conditions there could be no adequate control over the acts of those who handled the funds, and irregularities were not infrequent. Furthermore, the treasurer was interested only in "cash" transactions, and in the fidelity of subordinates or others handling "cash." There was little attempt to obtain operating data; there was little attempt at uniformity of method in the operating accounts and statistics.

Inadequacy of Accounts of Early Railroads.—As consolidation became more frequent, the confusion was increased; as between railroads there was not even the semblance of uniformity. As department heads were judged by their returns, there was a natural tendency for them to make as favorable a showing as possible, and therefore their reports, which were intended to serve as administrative guides, were misleading. The general bookkeeper was called the "auditor" upon some roads, but whatever his title, his authority was limited. Said a writer in 1870:

> The Auditor of many of our prominent companies is a bookkeeper,—nothing more or less, and a blind one at that. He receives a summary of the accounts from many different departments and mechanically enters them upon his books. These accounts, that should receive the nicest scrutiny and elaboration before reaching him in this condensed form, are made up in departments conducted under the supervision of officers who are employed because of their especial fitness to conduct certain departments connected with the physical operations of the road. They know nothing about accounts; and if they did, their other labors would preclude their devoting the care and attention that they deserve. The result is that the officer leaves them to his chief clerk, who, in his turn, is, of necessity, more or less

devoted to other duties, . . . and . . . the examination, in reality, is conducted under the supervision of inferior clerks.[1]

As a means of remedying these unnecessary conditions, the accounting department was created during the seventies as an independent executive branch. With the growth of business, greater demands were made upon this department. New accounts were introduced, and new methods devised to meet conditions on particular lines; but while the function of the auditor increased in usefulness, the methods on different lines became more dissimilar.

We have abundant evidence as to the chaotic condition of the accounts upon the early railroads. In 1857 an examining committee found that on the Boston and Providence there were almost no safeguards about the funds of the corporation. Each department kept its accounts according to a system of its own, and as there was no official to whom all reported, no one man was in touch with all of the accounts. Payrolls and bills for supplies were paid without examination to determine their clerical accuracy, and with no evidence that an adequate return had been received. Agents were not charged with unsold tickets, and the collections of conductors were not checked. A record was kept of commutation tickets, but as the conductors rarely examined these tickets, passengers were allowed to ride for months after the expiration of the periods for which they had paid.[2] The condition of affairs disclosed upon this railroad was little worse than that which prevailed throughout the country at that time. Even as late as 1892 the accounts of the Western Maryland were found to be kept according to the most primitive methods. The president was accustomed to report earn-

[1] Stork, "The Department of Railroad Accounts," *Railroad Gazette*, I, 74.

[2] Report of the committee for investigating the Boston and Providence.

ings and expenses as they accrued, but the treasurer entered them upon the books only as they were received or paid. Thus the sum of $2,972,000, representing interest due and accrued on the funded debt, was not recognized as a liability. On the other hand, the city of Baltimore was credited with a loan of $1,800,000, the amount authorized by ordinance, while the amount actually received was $1,704,000. The registrar's record showed that $324,000 of preferred stock was outstanding in excess of the amount entered upon the secretary's books. The sum of $226,000, representing funded coupon certificates, had been carried as an asset for five years before the error was discovered. A cash item of $4300 in the current report was reduced to $3000 by the investigating commission, and a profit and loss credit of $453,000 was adjusted to a debit of $3,417,000.[3]

Progress Toward Uniformity.—So long as accounting systems were adopted without reference to methods employed upon other railroads, there could be no adequate standard by which executive officials might test the returns of their subordinates. As a result, in many companies insolvency came as a surprise to those who should have been familiar with actual conditions. Thus the president of the Central of New Jersey was so badly deceived by the accounts that he considered the company sound up to the eve of insolvency. The same thing occurred upon the Eastern of Massachusetts, and on the Boston and Portland.[4]

Effect of Publicity Requirements of State and National Laws.—Under such conditions, the interests of holders of railroad securities were inadequately protected. The assets might be carried at exaggerated values, so that an apparent surplus would be shown where there was a deficit.

[3] Report of the commission to investigate the Western Maryland railroad company and the interest of the city therein.

[4] Sterne, "Railroad Question," 29.

This was once the practice of both the Philadelphia and Reading and the Baltimore and Ohio. It was to remedy these conditions that uniform returns were early required by law in Massachusetts, New York, and other states, and by congress in 1887; but as considerable discretion was necessarily allowed in preparing the returns, the result was not equal to expectations. While such laws naturally served to promote uniformity, the greatest force in this direction has been exerted by the Association of American Railway Accounting Officers, which was organized in 1887. Up to the time when this association was formed, the freight business was handled on local waybills. Railroads treated other lines as they treated shippers. The initial line collected its charges at the time of delivery at a junction point, and each connecting line re-billed the freight as it was received. Settlements between companies were arranged by agents at the junctions, or by means of a draft of the agent of one company upon the local depositary of the other, and there was little occasion for the auditors of different lines to have any communication. These methods were expensive and productive of delay, and as a remedial measure there was devised the system of interline waybilling which is in use to a greater or less extent throughout the country. This has necessitated uniformity of method, and through this association the auditors of the various railroads have been able to bring their systems into comparative harmony.

Uniformity Obtained Under the Hepburn Act.—Under the act to regulate commerce (1887) the interstate commerce commission was authorized to require annual returns according to uniform specifications, but until the amendatory act of 1906, the commission was without adequate authority to require a uniform interpretation of the items reported, whether by different companies or by the same company in different years. "It is evident," says

Doctor Adams, "if annual reports are to serve a practical purpose, that they should be made with a common understanding of the terms used and rest upon a uniform system of accounts. This is only possible where the rules of accounting have the authority of law, from which it may be concluded that a system of prescribed accounts having been established, the annual reports will assume significance which heretofore they have not borne, especially from the point of view of judicious discrimination relative to railway securities."[5]

Organization of Accounting Department.—While the accounting department is coördinate with the treasurer's department, it is ordinarily dependent upon no official except the operating head of the company, whether president or vice-president. In some companies the chief accounting officer reports directly to the board of directors. By this means, an independent agency is created for obtaining information and an effective check is maintained over the acts of all those who are responsible for management as well as over those who are concerned with the handling or the custody of money. The work of the accounting department naturally divides itself under four heads—freight receipts, passenger receipts, disbursements, and general accounts. In small companies, the auditor or comptroller has direct charge of all these branches, and the detailed work is carried out under the supervision of chief clerks. Usually, however, the auditor exerts immediate control over only the general accounts, leaving the matter of disbursements and receipts to subordinate auditors who work under his general direction. The auditor has absolute authority over the forms on which the accounts in all departments are kept, and no subordinate may deviate from his instructions in any particular. He is thus able to interpret the returns as they

[5] Adams, "Railroad Bonds as Securities from National Banks," 3.

are made to him, and to keep in such close touch with the affairs of the company that he can at any time draw off from his records any statement which may be required.

General Accounts.—The auditor has direct control over the general ledger and over such subsidiary ledgers as may be required to record the particulars of transactions which are outside the jurisdiction of the subordinate auditors. The general ledger is the book of final record into which the results of every transaction is transferred at the end of each month. It contains only such entries as are approved by the auditor upon properly authorized vouchers payable and bills receivable and upon journal vouchers representing the net results of the subsidiary accounts. The purpose of the auxiliary ledgers is to provide for a detailed record of each transaction, and to divide the clerical work so as to facilitate the performance of routine. The auditor usually has direct charge of the ledgers containing accounts with other companies and with individuals, the station agents' ledger, and the freight-traffic, passenger-traffic, and car-service ledger. On some roads the auditor keeps a copy of the treasurer's cash book; on all roads he receives daily reports from the treasurer, and at irregular intervals verifies the treasurer's cash and accounts. Upon the basis of the monthly returns the auditor makes drafts for balances against railroads, and approves drafts upon his own company before they may be paid by the treasurer. Every auditor has a force of traveling auditors who take charge of the installation of station agents, and as often as twice a year examine the accounts of each agent to prove them against the periodical reports submitted since the last audited balance, and to see that the cash is sufficient to cover the balance in favor of the treasurer. Some companies also have traveling accountants who examine the accounts of

division officers, union stations, and the various transportation companies operating in connection with the railroad.

Freight Auditor.—The work of the freight auditor has to do largely with the verification and recapitulation of agents' reports, the entering of the detailed record upon the subsidiary freight-accounts ledger, and the preparation of summarized entries or journal vouchers for the chief accounting officer to record in the freight traffic and station agents' ledgers and in the ledger for "foreign" line accounts. In accordance with instructions from the traffic department, the freight auditor also apportions among interested carriers the revenues accruing from interline traffic. The basis of all these accounting operations is the waybill.

The Waybill.—A shipper delivering freight to a local agent submits a shipping bill, giving a description of the freight, the consignee, and the destination. In return the agent issues a shipping receipt. This may be exchanged by the shipper for a bill of lading if a negotiable instrument is desired, but the contract for transportation and safe delivery appears upon both documents. When the freight is loaded the agent prepares a waybill which contains a memorandum of the consignment, together with full shipping directions. The description and weight of the freight is given, the number and initials of the car, the route, and the charge, together with the advances and prepaid, if any. One copy of the waybill is sent to the freight auditor; another is retained for the office record.

Waybills may be divided into four classes: (1) local waybills covering shipments destined to points on the issuing carrier's line; (2) local waybills covering shipments destined to points on other lines; (3) interline waybills providing for junction settlement; (4) interline waybills settled through the audit office. The practice of interline bill-

ing is general among Western railroads, but it is not so extensively followed in the South, and least of all in the Eastern states. All interline waybills show the total charge through to the billing destination, or to the last junction or pro-rating point on the route. Usually, and at all times if desired, copies of such waybills are sent by the forwarding agent to the freight auditors of all intermediate railroads over which a consignment may be routed. The original waybill accompanies the freight to its destination, except in the case of "manifest" freight and "time" freight, which demand quick service. Such freight is waybilled upon specially colored forms, and a card of corresponding color bearing the serial number of the waybill is placed on the outside of the car, while the bill itself is mailed to the agent at the billing destination.

While ordinary freight is en route, the waybill is in the possession of the conductor. Each conductor at the end of his run notes upon the bill the number of his train, and attaches his initials before delivery to the agent. If the freight is weighed en route, full particulars must be recorded upon the waybill; and if it is transferred to another car or diverted from the original destination, the fact must be noted. When at its destination the freight is examined by the receiving agent in order that the company may be protected in the event of claims for shortage or damage. The waybills are also tested in detail to determine the propriety and accuracy of all entries, and to make it certain that all charges have been applied to the consignment. When these facts are established, the waybill is at once forwarded to the freight auditor, card waybills being attached to their complementary forms. In the case of interline shipments, the freight auditor of the delivering road retains the original waybill, as a notice of arrival; a second is receipted and handed to the consignee when freight charges are paid.

Collections.—The receiving agent is responsible in all cases for the collection of such charges as are not prepaid, and as soon as the waybill is corrected, triplicate freight bills are made out. One copy he sends to the consignee, and the other the receiving agent retains after taking consignee's receipt for property therein. Remittances are made daily to the treasurer, or to certain designated local depositories, and the auditor is notified of the fact in order that proper credit may be given. Through waybills are examined at junction points by the agents, who from the point of view of the initial carrier are the receiving agents.

Agents' Abstracts of Waybills Forwarded and Received.—Every station agent is required to prepare monthly abstracts of waybills forwarded and received, and agents at junction points must in addition submit junction reports containing a record of all through waybills delivered to other lines. On representative railroads, these agents' abstracts show by separate groups the waybills passing from each particular station to all destinations, and in a similar manner are shown all waybills received. The freight-received reports include each month some waybills dated in the preceding month, which were therefore included in the forwarded reports of the month. Similarly, the current forwarded reports include the record of some waybills which have not had time to reach their destination. Such waybills are separately listed by the freight auditor on "transit sheets," and the footing of the previous month's transit report is entered upon the "forwarded" side, and the current month on the "received" side. Thus the balance is effected; for the total of freight forwarded must equal the total of freight received, added to the total in transit or not received. The freight auditor submits all waybills to final test to determine the accuracy of the examination of the receiving agents. The monthly abstracts

are then checked against these waybills, and the abstracts of waybills forwarded are compared in the fullest detail with the abstracts of waybills received.

Interline Balances.—The monthly abstracts, together with the division sheets which are supplied by the traffic department, enable the auditors to arrive at a basis for settlement on interline business. Drafts for balances are made monthly, though drafts for approximate balances are permitted each week, and settlements on through freight interchanged at junction points are invariably made weekly.

Auditor of Passenger Receipts.—It is the function of the auditor of passenger receipts to account for the revenues from the sale of tickets and the collection of cash fares, to apportion them among the companies over whose lines tickets have been sold, and to record the detailed operations of this department in a subsidiary passenger-accounts ledger, from which entries may be furnished to the auditor for record in the passenger traffic and station agents' ledger, and in the ledger containing accounts with other railroad companies.

Tickets.—The greatest part of passenger revenue is received from the sale of tickets by local agents who obtain their supplies through requisitions upon the general ticket agent, and charge rates which are fixed by the passenger traffic department. Tickets are of many kinds, but the standard varieties are local tickets and interline or coupon tickets. Local tickets are usually printed upon single cards, but in some cases they are made in two sections, one of which is the stub upon which is printed a full record of the ticket. This stub is retained by the selling agent. Interline tickets consist of a contract with attached coupons which are good for passage over successive portions of the route for which the ticket is issued. The first cou-

pon is the agent's stub, and this is detached at the time of sale. There are many special varieties of passenger tickets—round trip, excursion, commutation, mileage, party, clergy, half-fare, etc. All tickets bear serial numbers or letters, and agents are charged with the specific tickets which are detailed in their requisitions.

Cancellations and Cash Collections.—Upon the trains, tickets are taken up and cancelled by the conductors. Each conductor cancels only those coupons or local tickets which are destined to points upon his run, returning the others after taking a record of each one so honored. Cash fare receipts are issued by conductors from books of forms which are charged against them by the auditor of passenger receipts. These receipts are in duplicate, half going to the passenger in lieu of a ticket. In some cases a slight excess fare is collected, subject to the provision that a corresponding rebate will be paid by any agent in return for the passenger's receipt. These receipts are forwarded by the agents to the passenger auditor's office, where they are checked against the conductor's returns. Agents keep a daily record of ticket sales, showing in detail the tickets sold and the amounts received. They are also required to submit a formal monthly report, supported by the stubs torn from the tickets sold. Conductors send to the auditor at the end of each run all cancelled tickets and cash fare receipts, and they prepare a full report monthly. Agents and conductors are required to remit collections daily to the treasurer or to a depository.

At the passenger auditor's office, the monthly reports of agents are compared with their daily records of ticket sales. Tickets taken up by conductors are assorted according to various classifications, and the accuracy of fares is determined by reference to agents' reports. Entries are finally prepared for the passenger-traffic and station

agents' ledgers. Revenues on foreign coupons sold by agents of the company are apportioned according to schedules prepared by the passenger traffic department.

Interline Ticket Reports.—Each month the passenger auditor compiles an interline ticket report, which shows in detail the revenues accruing to every line over which the company has sold coupon tickets. Similar reports are received from other railroads, and these are carefully tested to determine that the company has been allotted its due proportion of the revenues. From these reports are drawn totals which are entered upon the passenger-accounts ledger, and which are submitted for entry in the passenger-traffic ledger and in the ledgers devoted to accounts with "foreign" lines and with station agents and conductors.

Auditor of Disbursements.—It is important that all revenues accruing to a company be turned into the treasury without loss; it is no less important that the funds in the treasury should not be withdrawn except for proper purposes; that the full amounts are expended for the purposes announced; and that a fair return is received for the money. It is the function of the auditor of disbursements or auditor of expenditures thus to safeguard the treasury of the railroad. He cannot veto improper expenditures, but he may refuse to give them validity by placing the records of such transactions upon his books. The subsidiary ledgers kept in this department are: the record of vouchers audited, the record of bills audited, and the materials-and-supplies ledger. Transcripts of the footings of these accounts are submitted monthly to the chief accounting office for entry in the general ledger.

Payrolls.—Expenditures incident to railroad operation are created on account of labor, materials, use of facilities of other railroads, and claims. Labor is paid through the medium of a payroll, which is prepared by the operating

offices directly in charge of the employees, from the time record and a schedule of wages furnished by authority of the ranking officers of the department. Accompanying the payroll is a summary showing the distribution of the charges among the accounts of the company. When certified by the maker, the payroll is passed to the chief operating officer, and when approved by him, it is sent to the auditor of disbursements for audit, and finally to the chief accounting officer for warrant. Increases in forces or in wages must be authorized by the chief operating officer. When paid, the receipted payroll is returned to the chief accounting officer, who credits the treasurer with the amounts expended. When payment of wages is made by check, the checks are drawn by the chief accounting officer against the payroll and passed to the treasurer, who arranges for their distribution through the local agents. Cancelled checks are examined by the treasurer, and when verified are returned to the chief accounting officer for credit upon the general books.

Requisitions for Materials and Supplies.—Materials and supplies are generally bought by the purchasing agent on requisitions approved by the proper operating officer, and invoices in triplicate are required from the vendors. One invoice goes to the storekeeper to whom the purchase is consigned, another to the auditor of disbursements, and the third to the purchasing agent. The storekeeper checks his invoice against the shipment and sends it to the purchasing agent, who thereupon issues a voucher in favor of the vendor. This voucher is passed to the chief operating officer for approval, and to the auditor of disbursements, who authorizes payment by the treasurer. The auditor of disbursements keeps separate ledger accounts with each storekeeper, posting from the vouchers of the purchasing agent and the requisitions of operating officers for materials. These requisitions are required from the officer in

immediate charge of the work for which the materials are to be used. They are summarized by the storekeepers, who submit a report each month to the auditor of disbursements.

Vouchers.—For all operating expenditures except labor, vouchers are required. This applies not only to material disbursements, but also to contract payments and miscellaneous expenditures. The vouchers are prepared by the operating officer directly in charge of the work causing the expense, and when approved by the ranking officer in the operating department, they are sent to the auditor of disbursements. Each voucher shows what materials have been used and the purpose of their use, and when certified by the responsible officer, it is evidence to the accounting department of the propriety of the expense. Vouchers are often issued in duplicate, one part showing the accounts to be charged together with the certification of the operating officer and of the auditor of disbursements, the other showing the approval of the chief operating officer and of the chief accounting officer and the receipt of the payee.

Distribution and Classification of Expense.—Railroads provide employees with schedules to enable them to make proper distribution of charges upon the vouchers. These schedules follow the classification of the interstate commerce commission. Four classifications of operating expenses have been prescribed by the commission—the original in 1888, a first revision in 1894, a second revision in 1901, under the act to regulate commerce, and a third revision in 1907 under authority of the Hepburn act, together with a supplement to this edition in 1908. As finally revised under the original act, the scheme provided for distribution of expenses under four general accounts, each of which was made up of various primary accounts. Maintenance of Way and Structures included ten ac-

counts; Maintenance of Equipment, nine; Conducting Transportation, thirty-seven; and General Expenses, seven—a total of fifty-three. The classification now in force increases the number of general accounts to five and the primary accounts to one hundred and sixteen. Maintenance of Way and Structures now comprehends twenty-three accounts; Maintenance of Equipment, twenty-nine; Traffic Expenses, eight; Transportation Expenses, forty-five; and General Expenses, eleven. The new general account was added to make it possible "to separate the expenses of soliciting traffic from the expenses incident to hauling the traffic"; and the number of primary accounts was increased to "permit a more careful analysis of the cost of transportation."[6]

Authority for these requirements is given in that part of the Hepburn act which reads: "The Commission may, in its discretion, prescribe the forms of any and all accounts, records, and memoranda to be kept by carriers subject to the provisions of this Act, . . . and it shall be unlawful for such carriers, to keep any other accounts, records or memoranda than those prescribed by the Commission. . . ."[7] In announcing the new classification,

[6] Interstate Commerce Commission, Statistics of Railways, 1906: 10.

[7] 34 Stat. at large, 593. Massachusetts early conferred upon the board of railroad commissioners authority to prescribe the form of accounts (R. S. 1902, c. 111, §83). Some of the other states which have similar laws are California (L. 1911, c. 20, c. 53), Minnesota (R. L. 1905, §1984 as amended L. 1907, c. 410), Nebraska (L. 1907, c. 90), New Hampshire (L. 1911, c. 164), New Jersey (L. 1911, c. 195), New York (L. 1907, c. 429), Ohio (L. 1911: 549), Oregon (L. 1907, c. 53), Vermont (L. 1906, no. 126), Washington (L. 1909, c. 93), and Wisconsin (L. spec. sess. 1905, c. 13). The Maryland legislature in 1910 (L. 1910, c. 108) passed a commission law modeled upon that of New York. California, Maryland, New Hampshire, New Jersey, New York, Oregon, and Wisconsin require that their commissions shall prescribe forms which shall conform to those imposed by federal authority. Vermont requires conformity as far as practicable with the systems in the other New England states, New York, and Canada.

however, the commission gave notice that any carrier would be permitted to subdivide any primary account required for its purposes, and to assign the amount charged to any such primary account, to operating divisions, to individual lines, or to states, provided a list of such sub-primary accounts and assignments be first filed with the commission subject to its disapproval. It also granted permission to keep any temporary or experimental accounts designed to increase operative efficiency, but such accounts must not impair the integrity of any general or primary account, and they must be open to inspection by the commission.[8]

Interline Balances.—Bills of other railroads on account of balances for car service, trackage rentals, and other interline claims are passed through the office of the auditor of disbursements before receiving the approval of the chief accounting officer. Records of car movements are kept by the car accountant, who is usually attached to the operating department, but in some cases to the accounting department. Every railroad requires from junction agents, reports of cars leaving the line; and as cars are interchanged, the user notifies the owner daily. Monthly service reports are interchanged, showing the specific cars used and the exact number of days. Upon receipt of a bill the daily reports are checked against the monthly summaries, and when verified and approved, a draft is honored for the amount due. Joint trackage rentals are compiled upon the basis of data in the car accountant's office, and bills are rendered and paid as approved, as in the case of settlements of car service balances. In the classification of operating accounts as prescribed by the interstate commerce commission, provision is made for the handling of joint-facilities accounts in such a manner that the reports

[8] Interstate Commerce Commission, Classification of Operating Expenses, third revised issue, with supplement.

of each carrier shall not only accurately represent its own operations, but that they shall be so presented as to show for each carrier concerned the particular expense chargeable to operating revenues, and that finally when combined for statistical purposes with the reports of all the carriers they should contribute no error to the total either by way of duplication or omission.[9]

Claims.—Claims for overcharge, shortage, and damage are first passed upon by the station agent with whom they are filed, and if their validity is established they are paid and a voucher is sent to the chief accounting officer for credit upon the station agents' ledger. When paid in this manner and credited upon the ledger, the amount of a claim is thrown into a suspense account until the liability for the charge is determined. An interline claim is paid by the company with which it is originally filed, but not until the other railroads concerned have given their approval. Claim agents sometimes pay by check upon a blanket voucher, which is prepared monthly for disbursements of this nature.

Classification of Operating Revenues.—In its business of furnishing transportation, a railroad incurs expenses and receives revenues which are interrelated, each earning necessitating a certain expenditure, and each expense tending to produce a certain revenue. The current record appears in the operating account. In this account the expense items are limited to the five general heads prescribed by the interstate commerce commission. On the credit side belong the items of revenue from freight, passengers, mail, express, and miscellaneous sources. Until 1907 the interstate commerce commission did not dictate the manner of presenting operating revenues. Carriers are now required,

[9] Adams, "Government Supervision of Railway Accounts," *Government Accountant,* I, 368-9; Interstate Commerce Commission, Accounting Series Circular, no. 14; Statistics of Railways, 1906; 11-2.

however, to show their earnings under two general accounts, Revenue from Transportation—made up of eleven primary accounts, and Revenue from Operations Other Than Transportation—composed of ten primary accounts. As in the case of operating expenses, the commission permits the keeping of sub-primary and temporary accounts. This classification, which is designed as a complement of the classification of operating expenses, is based upon the principle "that transportation revenues should be confined to the revenue flowing from those sources supported by the expenses charged to operating expenses," [10] and its purpose is to show: "first, the amount earned for the transportation of freight, upon which should be based the computation of revenue per ton per mile, and of revenue per freight train mile; second, the amount earned for the transportation of passengers, from which may be computed the revenue per passenger per mile; third, the amount earned from all transportation on passenger trains, from which may be computed the revenue per train mile; fourth, other revenue from transportation service, namely, switching revenue, special train revenue, and miscellaneous transportation revenue." [11]

The operating account, therefore, must appear in this form:

Dr.	Cr.
Maintenance of Way and Structures	Revenue from Transportation
Maintenance of Equipment	Revenue from Operations Other than Transportation
Traffic Expenses	
Transportation Expenses	
General Expenses	
Total Operating Expenses.	Total Operating Revenues.

[10] Interstate Commerce Commission, Statistics of Railways, 1906: 12.

[11] Interstate Commerce Commission, Classification of Operating Revenues, first issue, with supplement.

Operating Account.—The difference between these totals gives Net Operating Revenues, and it is this result which determines the efficiency of the operating department. The operating account is a constituent part of the Income Account, but as ordinarily presented the income account includes nothing of operation except the net result, from which, according to the new ruling of the commission, taxes must be deducted to show Operating Income.

Income and Profit and Loss Accounts.—According to this plan, only those items which apply to an entire year and which are special to that year appear in the income account. Up to 1907 the form of income account prescribed by the interstate commerce commission provided for credit items comprising net operating revenue, rentals, interest and discount, return on securities owned, and miscellaneous income, the aggregate of which yielded Total Income. From this were deducted taxes, rentals, interest upon bonds and floating debt, leaving as a balance, Net Income, also called "Nominal Surplus." From this balance, it was customary to deduct dividends and appropriations to reserve funds, leaving Surplus, which added to the balance forwarded from the account of the preceding period constituted Profit and Loss Surplus. This item was carried to the General Balance Sheet direct or through the medium of a Profit and Loss Account, according to the policy of individual companies. The purpose of a profit and loss account is to provide for charges which are not special to any given year. The appropriations for sinking funds and car trust payments are ordinarily made through this account, as are extraordinary expenditures and adjustments of various sorts. In some cases dividends are paid through this account, but this is contrary to the purpose for which the account is kept; for dividends are properly chargeable against the earnings of the period in which they are de-

clared. Most railroads have not seen fit to keep a profit and loss account, but have provided for adjustments through the income account. Through the ruling of the interstate commerce commission all companies now keep an income account and also a profit and loss account. Various reasons are advanced to show the necessity for a revised income account. As under the new classifications of operating expenses and operating revenues all payments and receipts which are in the nature of rents are excluded from the operating account; and as rents differ in their nature and are for the most part intercorporate payments, it is necessary to show each variety separately in the income account in order to avoid duplications and omissions when the reports of all carriers are consolidated. Furthermore, it is desirable to distinguish between operating and contractual income and the complementary charges, and the net corporate income constituting the fund from which deductions may be made only by vote of the directors. To this end not only an income account, but also a profit and loss account is necessary. The prescribed forms of these accounts are as follows:

Upon the income account the first item is gross operating revenues, from which operating expenses are deducted, leaving net operating revenues, to which is added the net revenues from outside operations.[12] From this is deducted taxes, leaving net operating income. To net operating income are added the net credit balance from rent for hire of equipment, joint facilities, and miscellaneous sources, rents received from lease of roads, the net credit balance from operations of subsidiary lines, interest and dividends received on shares, bonds, and sundry securities,

[12] A special classification of revenues and expenses for outside operations has been put into effect, to "include all operations for which special arbitraries or allowances are covered in the rate for special services other than rail transportation, or for which an additional collection is made from shippers, consignees, passengers,

and miscellaneous income—the aggregate constituting Gross Corporate Income. With these are the complementary debit entries; net debit balance from outside operations, net debit balance from rents for hire of equipment, joint facilities and miscellaneous sources, rents paid for lease of road, net debit balance from operations of subsidiary lines, interest on current debt, interest on funded debt, sinking fund accounts, and other deductions. The aggregate of these charges (or such as are operative in any particular case) against gross corporate income leaves Net Corporate Income, out of which dividends may be declared, and appropriations made for reserves, additions and betterments, and miscellaneous purposes. The balance is the Surplus for the year.

The surplus from the current income account added to the profit and loss surplus of the preceding period provides the principal credit item in the profit and loss account. To this may be added sundry credits, and against it may be charged similar debits at the discretion of the directors. Provision must also be made here for charges on account of dividends declared out of surplus. The balance is the profit and loss surplus (or deficit) for the period, which is carried to the General Balance Sheet.[13]

The General Balance Sheet.—The general balance sheet contains a full statement of all accounts on the general

or others for a special service performed. They also include operations designed or used to furnish products or services not directly connected with rail transportation."—Interstate Commerce Commission, Accounting Series Circular, no. 10. This therefore applies to water and trolley lines; express lines; sleeping car, restaurant, elevator, and dock service; storage and cotton compress plants; and the like. It is the purpose of this classification to separate transportation expenses and revenues from the expenses and revenues incident to the commercial activities of carriers, and thus to facilitate the checking up of the arbitraries and allowances in transportation agreements and operating contracts.—Interstate Commerce Commission, Classification of Revenues and Expenses for Outside Operations, first issue; Statistics of Railways, 1906: 10-1.

[13] Interstate Commerce Commission, Accounting Series Circular, no. 19.

ledger. Its items are classified as assets, which are shown upon the debit side, and liabilities which appear upon the credit side. Assets have been usually divided into two classes. Capital assets consist of the railroad property and franchise, equipment, securities, real estate, and reserve funds in trust or in cash. Current or working assets are those which are being realized upon in the ordinary course of business, and which theoretically might be converted into cash in the event of necessity. Such are balances from agents and conductors, accounts and bills receivable from other railroads, transportation companies, and individuals, advances to branch lines, material and supplies on hand, and sundry "quick" assets. Capital liabilities consist of shares, representing ownership, and bonds of various classes, representing the funded obligations of the property. Current liabilities are divided into "floating debt," represented by loans, and bills and accounts payable, and operating liabilities, represented by traffic balances, payrolls and vouchers, reserve accounts, interest, dividends and taxes accrued, and sundry liabilities. The balance of the profit and loss account is entered on the balance sheet on the credit or debit side, according as it represents a surplus or a deficit, thus completing the balance. Such was the balance sheet as it was formerly kept. In connection with its plans for a comprehensive system of railroad accounts the interstate commerce commission has prescribed a form of statement designed to classify the items covered so as to permit "a strict interpretation of the words 'assets' and 'liabilities,' a clear definition of 'accounts,' and entries so comprehensive that all important operating and financial transactions may be duly reflected."[14] Provision is accordingly made for the segregation of Assets into five primary accounts. Property Owned as Investment, with six sub-primary accounts;

[14] Adams, "Railroad Bonds as Securities from National Banks," 6.

Working Assets, with eight sub-primary accounts; Accrued Income Not Due; Deferred Debit Items, with ten sub-primary accounts; and Profit and Loss Balance. Liabilities are to be divided among seven primary accounts, Stock, with three sub-primary accounts; Mortgage, Bonded and Secured Debt, with three sub-primary accounts; Working Liabilities, with eight sub-primary accounts; Accrued Liabilities Not Due, with two sub-primary accounts; Deferred Credit Items, with four sub-primary accounts; Appropriated Surplus, with two sub-primary accounts; and Profit and Loss Balance.[15]

A further object contemplated in drawing up the new form is to present the true costs of the property of a carrier by including among its assets separate items to show roadway, equipment, other physical property, and securities acquired through deductions from income or charges against surplus. Such additions under the old system disappeared through the profit and loss account, with the result that an indefinite hidden surplus was reflected but not definitely shown upon the balance sheet.[16]

The following explanation has been given by the statistician of the commission as to the form of general balance sheet statement as promulgated:

The chief difficulty in drafting a satisfactory balance sheet statement arises from the different, and to some extent conflicting, interests concerned, which, for the sake of explicit statement, may be defined as—

(a) The interest of the management,

[15] Interstate Commerce Commission, Form of General Balance Sheet Statement, first revised issue.

[16] Additions to property through an increase in capital liabilities are provided for in a classification of expenditures for road and equipment comprising three general accounts: Road, Equipment, and General Expenses. These are made up of forty-eight sub-primary accounts of which Road comprises thirty-seven; Equipment, six; and General Expenses, six.—Interstate Commerce Commission, Classification of Expenditures for Road and Equipment, first revised issue, with supplement.

(b) The interest of the investor, and

(c) The interest of the public.

The chief aim of those who administer the property is to maintain the credit of the business placed in their hands. It is therefore the purpose of the management to develop the property without a corresponding increase in outstanding securities. This is true for the reason that the wider the margin between the value of the property to which the corporation has title and the amount of securities outstanding against the property, the stronger will be the credit of the company and the greater its ability to borrow fresh capital in time of need. This is the explanation of what has been termed the "American system of railway financiering," which, during the last thirty years, has led to enormous expenditures for new construction and for additions and betterments, without corresponding charges to the property accounts. It is also doubtless an explanation of the fact that those who manage American railways have seldom thought it wise to set up in the property accounts, through current or periodic inventories, the results of changes in the valuation of real estate or of fluctuations in the market values of material and labor. It thus becomes evident why the measurement of "cost of property" acceptable to the management is not the money expended in the construction or the development of the property of the corporation, but the securities which must be issued in order to obtain the necessary funds for construction and development; and, as long as balance sheets are constructed with exclusive regard to the interest of the management, it will not be possible to read from them the investment cost of the property.

The interest of the stockholder, on the one hand, so far as the accounting record of charges to property accounts is concerned, is at variance with that of the management. It is, of course, true that the trustees of the property—that is to say, the board of directors and the officials who represent them—may also be stockholders, and much of the "high finance" of recent years has resulted from the temporary substitution by the management of the stockholder's interest for the legitimate interest of the management. The stockholder is the residuary proprietor of all of the company's assets not covered by outstanding obligations, and it is to his interest that the value of the property should be increased without a corresponding increase in the number of shares which have a proprietary claim upon the property. This is true

for the reason that the value of the shares will increase, other things being equal, with the increase of the property which they represent, and in a properly constructed balance sheet a stockholder should be able to reach the true book value of his property, and deduce from it the basal market value of each share. The stockholder's interest is expressed in valuation. His interest in the business is that of an investor, and he desires to apply the rules and principles of commercial valuation to his investments. He desires also to have as high a statement of the property accounts as the commercial conditions of the business warrant, in order that he may protect the value of his investment by showing how great is the value of the property used in rendering the service for which the public pays. There is a marked tendency in recent years toward the commercial valuation of railway properties for the purpose of making use of that valuation to resist a reduction in passenger or freight rates, and it is consequently of great importance to the stockholder that uniform and reasonable rules should be followed in arriving at a practicable, usable, and equitable statement of the property accounts.

The interest of the public, which is the third interest involved in the property accounts of railways, rests upon the fact that a reasonable rate for transportation services is a rate which contributes a reasonable return upon necessary investments, and a satisfactory balance sheet from the public point of view is one which shows what has been actually invested in the property. The public therefore has the right to demand that the property ledger should record every item of property which an appraiser would find, should an appraisement be undertaken, and from the point of view of the public at least, the figures entered on the property ledger against the several items of property there recorded should be the amount of money actually spent in creating the property rather than, as the management desires, the amount of securities issued, or, as the stockholder desires, the commercial valuation of the property.

The Form of General Balance Sheet Statement submitted to the Commission and promulgated under an order of June 21, 1909, was constructed, primarily, under the influence of the third interest above described. The chief aim of this statement is to record such an analysis of assets and liabilities as will result in a complete statement of the situation. Investment value, rather than securities issued or commercial valuation, is made the corner stone of this statement, and provided the records of

the carriers can be adjusted to this conception, there will be found in the balance a figure which may be accepted as a starting point for computing the amount which the public may be called upon to contribute in passenger and freight rates.[17]

The balance sheet is the final exhibit of the financial condition of a company, showing the property, its ownership, and the nature and extent of the claims against it. In this statement appears the resultant of every transaction of the period covered, but its absolute figures in themselves have little value. It is only when viewed in comparison with the balance sheets of preceding periods, and when the differences are traced through the interrelated items of subsidiary statements that it may be properly interpreted.

Statistical Functions of the Accounting Department.—While it is the principal function of the accounting department to test and record financial items, it serves also as a statistical bureau for the preparation of statements for the guidance of administrative officials. There is little semblance of uniformity in either the methods or the organization of the statistical work among different railroads. In some instances there is a statistical department as a coördinate branch of the accounting department. Usually, however, the work is divided among various branches of the operating and accounting departments. Thus the superintendent of motive power compiles the detailed reports of locomotive, car, and train performance; the freight auditor prepares the statistics of freight traffic and revenue; the passenger auditor prepares the statistics of passenger traffic and revenue; and the auditor of disbursements shows the distribution of expense.

Importance of Operative Statistics.—The importance of statistics as an aid to administration was not appreciated by the first generation of railroad men, who were essen-

[17] Interstate Commerce Commission, Statistics of Railways, 1908: 10-2.

tially builders and not operators. Their chief concern was to increase gross earnings, often regardless of net revenue, and they kept in touch with matters of operation only in a general way. But individual railroads have increased to such dimensions that it is impossible for general officers to exert proper control over the acts of subordinates except by means of statistics. Moreover, the railroad men of to-day have been trained in operation, and they have advanced to a point where statistics are regarded as essential as a basis of administrative judgment. Whenever plans for new undertakings are considered, elaborate statistical compilations are prepared before judgment is passed. Railroads are operated under widely different conditions, and their statistical needs and methods necessarily vary, but it is possible to detail certain practices which are fairly representative. Upon most railroads a monthly operating sheet is prepared upon which is recorded by operating divisions and districts the distribution of operating expenses, together with statistical units and averages showing the results of this distribution. From the data thus presented, it is possible for administrative officers to test the efficiency of their subordinates, and to balance roughly units of expenditure against units of receipts. Nothing like absolute results may be obtained, however; for while a certain proportion of items may be allocated with exactness, others must be applied arbitrarily.

Units of Measurement.—The units of railroad transportation are the "ton-mile" and the "passenger-mile." The ton mile is a ton of freight moved one mile. Similarly, the passenger mile is a passenger moved one mile. The "commercial" ton mile is the unit of revenue freight; the "net" ton mile, of total freight; and the "gross" ton mile, of total freight added to the weight of the cars. The unit of transportation service between terminals is the "train mile." The "car mile" is the unit of car movement.

The "engine mile" and the "traction ton mile" are the most common units of performance. The former is the unit of miles run per locomotive; the latter, the product of multiplying the weight of a locomotive on its drivers by the number of miles run.[18] The unit of property is the "mileage of road." None of these factors furnish an absolute standard of measurement; for modifying influences are exerted by the different varieties of traffic and the different circumstances of each individual haul. It is possible, however, by means of these units to obtain certain averages of performance, of expense, and of revenue.

As measures of performance, the averages ordinarily appearing upon the operating sheet are any or all of the following: ton and passenger miles per car, per train, and per road-mile—indicating density of traffic; gross ton miles per traction ton mile—indicating general operative efficiency; tons of coal per gross ton mile—indicating locomotive efficiency; length of haul per ton and per passenger—indicating character of traffic. As an indication of the efficiency of car movement and of the relative direction of the traffic, the empty and loaded car mileage in each direction is also given; and average costs are shown per ton mile, per passenger mile, and per train mile, for station, yard, engine, and train service. Freight earnings are shown per ton mile, per car mile, per engine mile, per train mile, and per road mile; and a similar exhibit is made of passenger earnings.

Distribution of Expense.—In order to arrive at the results shown on the operating sheet, it is necessary first to make a division between those expenses which are directly chargeable to transportation service and those which are of an indirect nature, and to apportion these charges between passenger and freight traffic. It is the business of

[18] The Interstate Commerce Commission in 1907 promulgated a classification of locomotive-miles, car-miles, and train-miles.

a railroad to sell transportation, and to this end it maintains and operates a roadway and track, terminals, and equipment. It incurs in this way certain expenses which represent the cost of transportation. The cost of moving trains and handling passengers at terminals are direct in their nature. Under this head also belong costs of locomotive and train service, fuel and supplies, repairs and maintenance of equipment, station and switching service, and supplies. Indirect expenses are those which are independent of the handling and movement of traffic. They include depreciation of roadway and structures, part of depreciation of ties, and many items of general expense. Some expenses may be readily apportioned between passenger and freight traffic. The two divisions of the traffic department are separately maintained, and many of the functions of the transportation department are concerned with specific services. Passengers and freight are carried in separate cars and generally upon different trains, and they are handled in different parts of terminal stations. The resulting expense therefore may be definitely assigned; and this applies also to depreciation of equipment and to claims for loss, injury, and damage. But there are many other items of expense which may be allocated only upon some arbitrary basis. Both varieties of traffic are hauled over the same line, and each contributes to the deterioration of the permanent way. Moreover, at local stations and at the general offices there are many expenses which are common. In the matter of allotting such expenses, there is little uniformity. The proper units of cost for this purpose, according to Woodlock, are: (1) for direct expenses incident to movement of trains, the train mile; (2) for maintenance and operation not due to train mileage, the road mile; (3) for station and terminal expenses, the passenger and the ton; (4) for general expenses, the relative gross earnings. According to the same authority,

the proper basis for the apportionment of cost of the foregoing classes between passenger and freight traffic are: (1) the passenger and freight train mileage, considering switching mileage as an integral part of freight train mileage, and charging the freight train mile with about twenty per cent. more expenses than the passenger train mile; (2) the relative gross earnings; (3) when not stated separately, the relative gross earnings; (4) the passenger and freight train mileage.[19]

This has been accepted with some modifications by the railroad commission of Wisconsin, which in the maximum passenger rate case went further in the direction of applying the principles of cost accounting to transportation than was hitherto considered practicable. The commission holds, however, that as passenger train mileage and freight train mileage do not represent the same quantities, they should not be used in apportioning direct transportation expenses. It proposes as a more equitable method, the division of common expenses on the basis of those which may be actually separated. This method is also put forward as a substitute for the apportionment of general expenses upon the basis of gross earnings, on the ground that there is no intimate relation between expenses and earnings. This is in harmony with the methods employed in cost accounting in industrial establishments.[20]

What the operating sheet shows of the efficiency of the transportation department as a whole, the locomotive and car performance sheets show in detail. These statements, which are usually compiled in the statistical department from returns furnished by the operating officers, make possible adequate control over the operation of individual locomotives and the distribution of rolling stock.

[19] Woodlock, "Ton Mile Cost," 96-7. Robinson, "Principles Involved in the Determination of Railway Rates," *Yale Rev.*, XVI, 382-4.

[20] Buell v. Chicago, Milwaukee, and St. Paul, 1 W. R. C. R. 385-499. (1907).

The Operating Ratio.—The ratio of operating expenses to gross earnings is sometimes considered an indication of the efficiency of the transportation department, and the operating ratios of different railroads are often compared to determine relative economy of operation. But the transportation department has full control of only one of the five items of operating expense. It is not concerned with the matter of traffic, or general expense, and its expenditures for maintenance of way and equipment are generally regulated by the directors. As administrative policies vary, the operating ratios upon different railroads are figured upon entirely different basis. The most that can be said is that when maintenance charges are adequate, the lower the operating ratio, the higher the grade of efficiency. The new requirements of the interstate commerce commission concerning the uniform reporting of maintenance and betterment expenditures will undoubtedly increase the value of this ratio as a test of performance. The undue importance which has been attached to the operating ratio has seriously interfered in many instances with the efficiency of the traffic department, for with the emphasis upon heavy train loads much traffic has been delayed, with the result that certain varieties of high grade freight have been lost which under normal conditions would have been offered for shipment.

Freight Statistics.—Operating statistics are concerned with the relation of performance to expense, and they are valuable as tending to show how expenses may be reduced per unit of performance. The traffic department, however, looks to revenues, and traffic statistics are valuable only as they show how earnings may be increased. Until within recent years little attention has been given to statistics of this sort, and all carriers have handled much traffic without means of knowing whether it would add to revenue. Progress has now been made to a point where it is possible to

show the relation of the average revenue from each commodity to the average expense of handling all freight traffic, and so indicate whether probable expenses are being met. The more progressive railroads compile traffic statistics which enable them to show what they make upon each class of traffic handled. This is done by deriving from the agents' abstracts of waybills "monthly commodity units," which show in a single item the movement of each commodity between any two stations on the line, giving particulars as to weight, ton miles, and earnings. The units are then filed by commodities, and the abstracts are filed in calendar order by stations. From these files the statistical department can furnish information regarding any variety of traffic, and the business of any station or shipper.

Passenger Statistics.—Comparatively little attention is given to the statistics of passenger traffic except as is necessary to fulfill the requirements of state and national governments for periodical reports. The averages which are ordinarily worked out have already been considered in another connection. Passenger business is in a certain sense an adjunct to the freight business, and trains may be kept in operation to accommodate profitable centers of freight traffic even when the direct receipts afford little profit. It is possible, however, for a railroad to know the earnings of every passenger train on its line, and to adjust its schedules so as to furnish the greatest practicable return.

Reports.—Railroads close their accounts monthly, and prepare a formal income account and balance sheet for the scrutiny of the executive officials and directors. Many companies also compile a weekly estimate of gross earnings which is published with the financial news of the day. All are now required to submit to the interstate commerce commission, monthly statements of earnings and expenses. All such statements are accompanied by the figures of the preceding period in order that necessary

comparisons may be made. With few exceptions, railroads must prepare three separate annual reports—one for submission to the state railroad commission, another for the interstate commerce commission, and a third for the shareholders. The forms of the first two are dictated by governmental authority; the third may be prepared to suit the wishes of the directors. With regard to the returns to the interstate commerce commission, section twenty of the Hepburn act reads:

The Commission is hereby authorized to require annual reports from all common carriers subject to the provisions of this Act, and from the owners of all railroads engaged in interstate commerce as defined in this act, to prescribe the manner in which such reports shall be made. . . . Such annual reports shall show in detail the amount of capital stock issued, the amounts paid therefor, and the manner of payment for the same; the dividends paid, the surplus fund, if any, and the number of stockholders; the funded and floating debts and the interest paid thereon; the cost and value of the carrier's property franchises, and equipments; the number of employees and the salaries paid each class; the accidents to passengers, employees, and other persons and the causes thereof; the amounts expended for improvements each year, how expended, and the character of such improvements; the earnings and receipts from each branch and from all sources; the operating and other expenses; the balance of profit and loss; and a complete exhibit of the financial operations of the carrier each year, including an annual balance sheet. Such reports shall also contain such information in relation to rates or regulations concerning fares or freights, or agreements, arrangements, or contracts affecting the same as the Commission may require; and the Commission may, in its discretion, for the purpose of enabling it the better to carry out the purposes of this act, prescribe a period of time within which all common carriers subject to the provisions of this Act shall have, as near as may be, a uniform system of accounts, and the manner in which such accounts shall be kept.

Said detailed reports shall contain all the required statistics for the period of twelve months ending on the thirtieth day of June in each year, and shall be made out under oath and filed

with the Commission, at its office in Washington, on or before the thirtieth day of September then next following, unless additional time be granted in any case by the Commission. . . . The Commission shall also have authority to require said carriers to file monthly reports of earnings and expenses or special reports within a specified period.

Inadequacy of Early Reports.—Railroad reports to shareholders have been generally lacking in information necessary to a proper understanding of the condition or prospects of the property. Some of the early railroad companies showed a disposition to acquaint shareholders with the essential facts, but so wretched was the condition of accounts that this was impossible. A writer in the *Edinburgh Review* in 1834 commented favorably upon the "copious and satisfactory" reports of the Baltimore and Ohio, contrasting them with the meager statements put forth by the Liverpool and Manchester, but his remarks had reference to the large amount of technical information which was of value not so much to shareholders as to the directors of other roads.[21] In an editorial in the *American Railroad Journal* in 1852, appeared this criticism, presumably written by Henry V. Poor, of the inadequacy of contemporary railroad reports: "Very few of the exhibits issued by railroad companies come up to the requirements. . . . From a great many of them, no distinct idea whatever can be formed of the condition of the companies. Everything is stated in general terms. We cannot tell how much a road has cost, how much will be necessary to complete it, nor whether the money expended has been well laid out or wasted. So with its operations. Receipts and expenses are stated in gross, and nothing given by which a person can form a correct estimate of the actual results."[22]

21 "Improvements in Inland Transport-Railroads," *Edinburgh Rev.*, LX, 124.

22 *Amer. Railroad Jour.*, XXV, 88.

These remarks may be properly applied to reports of much later date. In the report of a shareholders' committee of investigation into the affairs of the Pennsylvania railroad in 1874, the "sources of the existing distrust in the value of railway stocks and securities" was discussed, and the first cause assigned was the "meager and incomplete reports made to shareholders." This criticism is the more noteworthy because the report was decidedly favorable to the administration.[23]

In the *American Railroad Journal* article above cited, was submitted a tentative list, showing what the investor might properly require in a railroad report: "He wishes to find in the report, 1st, A statement of the amount of capital stock subscribed. 2nd, Amount paid up, and value unpaid. 3rd, Amount of debts and for what purpose incurred. 4th, Estimated and actual amount expended, and for what objects; with explanations as to the cause of any discrepancy that may exist. 5th, Amount required to complete the road and to make further improvements. 6th, The state and condition of road and equipment. 7th, Actual amount of receipts and expenditures, and for what purposes the latter were made. 8th, Number of miles run by trains. 9th, Amount received per passenger, and per ton of freight carried each mile. We give these as items which should always be found in every report, but by no means embracing all that should appear."

Essentials of an Adequate Report.—The investor of today demands much more than this information; nothing less than a full and detailed statement which will enable him to ascertain the earning power of the property in which he has or wishes to have an interest, and so determine the value of the securities representing such interest. He wishes also to know of the financial and physical

23 Report of the investigating committee of the Pennsylvania railroad, 159.

condition of the property in order that earnings may be assured for the future. An adequate report must contain copies of the revenue account and balance sheet drawn off from the general books of the company. If there are subsidiary lines controlled through share ownership, separate revenue accounts should be given for each company. All items in the accounts should be sustained by detailed exhibits showing the nature and amount of the property, together with all claims against it. This necessitates a full, detailed inventory of the physical property, and a list of securities owned, together with a detailed statement of funded debt, with the particulars of each issue of bonds and its security. Leases and other contracts affecting the integrity of the property must also be given. With this there should be a statement of the traffic, with information as to its character and amount, and the efficiency with which it was handled. All statements in annual reports must be necessarily accompanied by the figures of the preceding year, for it is not so much the absolute amount of any item that is important as the change within the year. The cause for extraordinary differences is usually stated in the comment in the report, but in default of such explanation, the facts may be ascertained if a sufficiently elaborate statement of accounts is presented.[24]

[24] See Speare, "Making a Railroad Report," *Railway Age Gazette*, XLVIII, 395-6.

CHAPTER XII

CAUSES OF INSOLVENCY

Insolvency Distinguished from Bankruptcy.—Insolvency is a financial condition. Bankruptcy is a legal status. Insolvency is inability to meet obligations to pay money when it is due upon demand for payment. This condition, however, does not constitute bankruptcy. The creditor may not enforce his right; he may allow it to lie dormant for a time; he may enter into a new agreement, extending the time for payment; or he may permit the debtor to settle by delivering something in lieu of the amount which is due. Bankruptcy is the legal status of a debtor against whom action is brought or threatened for the enforcement of obligations for the payment of money, when he pleads inability to pay as his defense, and asks that the court effect a judicial settlement with his creditors.

Insolvency Distinguished from Deficit.—Nor is insolvency to be confused with the financial condition in which a person finds himself when his liabilities exceed his assets, causing a deficit. When stated on a balance sheet the liabilities of an individual or of a business organization are the classified and summarized amounts of obligations to pay money; the assets are classified and summarized resources stated in terms of the money standard. In case the amount of the liabilities exceeds the amount of the assets, the difference constitutes the deficit; if the amount of the assets thus stated exceeds the amount of the liabilities, the difference constitutes the surplus. Since the condition of insolvency is determined by ability or inability

to meet obligations to pay a definite amount of legal tender money when due, it is obvious that a deficit may occur without causing insolvency, and conversely, that a surplus may be present in insolvency. Furthermore, there may be a deficit and a condition of insolvency without bankruptcy.

Credit Considered as a "Short Sale."—A proceeding in bankruptcy is the legal remedy for insolvency. It may be invoked by either creditor or debtor; the object being settlement of all contracts for payment after adjudication, instead of satisfying each contract as it matures, either by payment or by settlement based on a new agreement. The immediate cause of every proceeding in bankruptcy is a credit contract. No better explanation may be given of the essential nature of credit and of insolvency leading to bankruptcy than by applying the analogy of what is known on the exchanges as a "short sale." All insolvencies are the result of inability to deliver as required by contracts of credit or short sales of money; all bankruptcies are the result of voluntary or enforced applications to a court for judicial settlement.

Right of Shareholders and of Bondholders.—Capital, considered as funds, property, and equipment, is obtained by leasehold agreement and by purchase. That which is held under leasehold agreement requires that there be no obligations incurred, except in the form of rent accruals, which may financially embarrass the corporation or its officers; that which is acquired through purchase, is obtained in exchange for the proceeds of sales of shares or of credit obligations. The shareholders are the owners of the corporation, and the shares issued do not fall due; they carry with them no obligation to pay except after dividends have been declared. The purchasers of bonds and other credit obligations are the only ones whose rights and demands may produce a condition of insolvency. So long as the corporation is able to meet its contracts for delivery

of money to creditors, the property and the management remains in the control of the directors and officers, representing the shareholders as proprietors. When this is impossible, the property and its management may pass by agreement into the control of trustees for the creditors until payment is made; or with the consent of the creditors, it may be entrusted to the officers of the corporation. When, however, there is resort to court, and the insolvent pleads inability to meet obligations which are due, either on complaint of a creditor or on petition of the officers of the corporation, the court will assume control. Up to the point of insolvency, therefore, responsibility for financial management rests with officers elected by the shareholders; during insolvency and before bankruptcy, it may rest with the trustees and the bondholders. After bankruptcy the court as a public arbitrator takes control for the benefit of all parties concerned.

Fixed Charges.—This does not mean that insolvency is necessarily the result of mismanagement by those who represent the proprietary interest, or that it reflects upon their administrative judgment and ability. For while the contracts for future delivery of money which cause insolvency are generally short time credit obligations, assumed as a means of financing operation and maintenance, those which are incurred as an incident or result of capitalization may prove quite as serious. There are three general classes of rights to demand money payments which may cause bankruptcy; those which accrue from leasehold agreements, those which accrue on long time credit obligations, and those which are established by reason of inadequacy of the original capital of the corporation.

Burdensome Leases.—Without any fault of the management, a railroad may be encumbered with unprofitable leases which reduce net revenues. Sometimes, however, burdensome leases have been effected through connivance

with the officers of the corporation. Thus the Richmond and West Point Terminal Railway and Warehouse company in 1881 entered upon a period of expansion, and through leases and purchases of shares involving contracts for payment of rent and guarantees of interest, so increased fixed charges that revenues were inadequate, and in 1891 the company collapsed. The Wabash, St. Louis, and Pacific failure in 1889 was also due to unprofitable leases of questionable propriety.

The well-known receivership case of the Vermont Central, which was before the courts from 1854 to 1884, resulted from a piratical lease made in 1849. By the terms of this contract as amended the following year, the Vermont Central leased the Vermont and Canada for fifty years at a rental equal to eight per cent. on the cost of the road, and as a pledge of the rental, the Vermont and Canada took a first lien upon the property of the Vermont Central. At this time there were few railroads in New England which were earning enough to pay dividends of eight per cent., and there is contemporary evidence to show that there never was any likelihood of such returns from railroad operation in Vermont.[1]

Heavy Fixed Charges.—The importance of considering the amount and proportion of interest charges cannot be overestimated. The weight of this burden may depend upon either a high rate of interest or the amount of capital obtained on credit, but in either case the effect is the same. If a company has a large portion of its outstanding capital obligations in the form of bonds, it has no way to keep going except by maintaining earnings to an extent sufficient to provide for interest. If the capital is composed mainly of shares, however, the directors may retrench at will simply by withholding dividends. It is not

[1] *Amer. Railroad Jour.*, XXIII, 665; Vermont, Report of the joint special committee to investigate the Vermont Central, 67-70 (1873).

surprising, therefore, that bankruptcy has been a common experience of those railroads which were originally financed through bond issues with the aid of bonuses in the form of shares. The Northern Pacific at the time of its completion was overburdened with funded debt, and the failure which immediately followed was mainly due to this top-heavy condition. To-day there are fewer roads subject to this danger, but this condition is largely the result of forced readjustment. Large numbers of bonds have been scaled down by forced refunding; others have been exchanged for shares through process of reorganization; still others have been refunded at maturity at lower rates of interest. Bankruptcy has also been the penalty of railroads which over-encumbered their earnings through assumption of obligations represented by bonds issued after the period of construction. This does not necessarily mean that overcapitalization was the cause of their embarrassment, but it has usually signified that there was undue lack of caution in determining the kind of securities issued to finance the purchase of terminals or the construction of extensions, or to carry out some other plan which promised to increase the earning capacity of the property.

Excessive Mileage.—Whatever the fundamental cause, many situations have developed which have been unfavorable to successful management. Overconstruction, stimulated by absence of restraint upon the issue of credit obligations and by the opportunity for promoters' profits through the employment of construction-company methods, has resulted in premature extensions into undeveloped territory, as in the case of the Atlantic and Pacific and the Northern Pacific; and the building of lines into territory where there were already sufficient railroads to accommodate local commerce and industry, as in the case of the New York and New England, the Seaboard Air Line, the New York, West Shore, and Buffalo, and other roads.

Such lines have been almost invariably constructed as cheaply as possible, with the idea of gradually bringing the property up to standard through the application of surplus earnings.

Faulty Construction and Low Credit.—But the demands of traffic may require the immediate acquisition of new equipment or structures which were not contemplated, or if contemplated were not provided for in the original capitalization. This necessitates the raising of funds by means of additional loans. The inferior physical condition of the property compels high interest rates, and with the first falling off of traffic through general business depression or crop failure, refuge must be sought in temporary extensions of time, and ultimately in resort to the courts. Whatever may be the immediate cause of embarrassment, the result must be a readjustment of all rights and claims to conform with the exigencies of commercial and traffic conditions. For, as is pointed out by Doctor H. H. Swain: "A railroad once built and equipped can almost always be made to earn something, and consequently few railroads are ever abandoned; the most luckless ventures still remain to complicate the problem. The excessive building of railroads has permanently lessened the earning capacity of railroads generally. Foreclosure and reorganization are often only the necessary recognition of this unpleasant fact."[2]

Unproductive Branch Lines.—Branch lines are often unproductive for some time after they are built; and many companies, themselves solvent, have been dragged down by the weight of obligations to subsidiary lines, whether in the form of advances or of unproductive leases. The Indianapolis, Cincinnati, and Lafayette went into the hands of a receiver in 1870 because of advances to unpro-

[2] Swain, "Economic Aspects of Railway Receiverships," *Economic Studies*, III, 143.

ductive branches,[3] and the Kansas Pacific became similarly embarrassed in 1873.[4] When in 1893 the Northern Pacific went into receivership, it was found that the company had been losing about $2,000,000 annually from the operation of branch lines.[5] Another cause of its distress, however, was an unprofitable lease of the Wisconsin Central.[6]

Dishonest Practices.—Dishonesty upon the part of the management has been a frequent cause of railroad insolvency. But while some railroads have been so plundered by construction companies that they became insolvent almost as soon as they began operation, as in the case of the New York and Oswego Midland, the Texas and Pacific, and the New York, West Shore, and Buffalo, others like the Central Pacific and the Southern Pacific, which obtained valuable monopolies as a basis for the capitalization of very large construction profits, have never been in the custody of receivers. Wrecking of completed railroads may be carried out by those in control as a means of obtaining greater advantages for themselves. Thus when in 1876 the Ohio and Mississippi was forced into bankruptcy, it was charged that the Baltimore and Ohio as the largest shareholder and holder of the floating debt had taken advantage of its position to obtain the appointment of a Baltimore and Ohio official as receiver as a part of a plan to absorb the property without due regard to the interests of the first mortgage bondholders.[7] Again, the charge was made in 1885, at the time of the default of the New York, Chicago, and St. Louis, that the Lake Shore had mismanaged the property with a view to the scaling of interest charges through process of reorganization.[8] Undoubtedly

3 *Commercial and Financial Chronicle*, XI, 594.
4 *Ibid.*, XVIII, 271.
5 *Ibid.*, LVII, 854.
6 *Ibid.*, LVI, 332.
7 *Ibid.*, XXIII, 526, XXVI, 392; Swain, ut supra, 84.
8 *Chronicle*, XL, 424, 454.

Gould, Fisk, and their predecessors as the managers of the Erie were largely responsible for the recurrent defaults of that road. Excessive "charter expenses" at the state capital was given as the cause of the embarrassment of the La Crosse and Milwaukee, after a prolonged contest for possession of a congressional grant of land.[9]

Inadequate Reports.—False or inadequate reports have been often employed to cover up dishonesty or incompetency, and so conceal the financial condition which must end in default. Thus when in 1888 the Missouri, Kansas, and Texas defaulted on its first mortgage bonds, an investigation disclosed the fact that the property never had earned enough to pay fixed charges, though it had been so represented in the reports.[10] In some instances the officials of the corporation themselves were deceived by the faulty system of accounts. A prominent cause of the downfall of the Baltimore and Ohio was the discovery that throughout the period from 1858 to 1884, large sums which had been expended in ways impossible to bring returns had been capitalized instead of deducted from earnings, and that much property which had depreciated or worn out had been carried on the books at cost. The effect of these disclosures was to destroy the credit of what had been considered one of the most stable corporations in the country.[11]

Competition of Rates and of Service.—A natural result of excessive construction and at the same time a favorite weapon of the wrecker, was rate cutting. There is no doubt that the rate wars of the early seventies contributed to the causes of the defaults in the depression following the panic of 1873. Even competition under normal conditions may result disastrously to the less favored lines. Competition not only reduces rates and divides traffic, but

[9] Annual report, 1868. [10] *Chronicle*, XLVII, 188.
[11] McPherson, "Working of the Railroads," 33-5.

it also creates a demand for better facilities and service as well. One of the causes of the Wisconsin Central failure in 1893 was the sharp rivalry among the six lines connecting Chicago with St. Paul; and the competition of the Great Northern with its low grades and the Canadian Pacific with its liberal subsidies served to bring out the weak points in the position of the Northern Pacific and to contribute toward its downfall.

Hostile Legislation.—The influence of hostile legislation upon railroad solvency is a matter of dispute. The reason given for the default of the Mobile and Montgomery in 1873 was low rates enforced by hostile legislation,[12] and the same was said of the failure of the Minneapolis and St. Louis in 1888. But in the latter case there had been a rate war, and the company had also suffered from the heavy expense incident to operation in a severe winter.[13] Without debating the question as to how generally restrictive legislation is the result of the failure of railroad managers to recognize the semi-public nature of their business and to observe the proper relation of the railroads to the people, it may be said that while much of it has been unwise, little of it has been hostile in intent. In fact much of it has been enacted directly in the interest of the real investor. In no case of railroad insolvency has it been proven that hostile legislation was responsible for the condition.

Floating Debt the Immediate Cause of Insolvency.—The immediate or direct cause of insolvency is almost always the floating debt, which may be represented by short time notes, demand notes, taxes, traffic balances, unpaid wages, advances of interest money, bills for supplies, or other forms of current obligation. Bank loans are ordinarily secured by the deposit of collateral representing control of subsidiary properties which are essential parts of the

12 *Chronicle*, XVI, 627. 13 *Ibid.*, XLVI, 699, 738.

system. It is such loans which precipitate the difficulty, for with a falling off in earnings, default of interest on the bonds will be chosen in preference to sacrifice of the collateral. When in 1893 the Philadelphia and Reading went into the hands of a receiver, it had collateral notes outstanding to the amount of $10,000,000.[14] As soon as a company becomes short of working capital, bankers begin to scrutinize more closely the collateral behind its notes, and as the condition of subsidiary lines are likely to be reflected in the condition of the parent company, this may result in the calling of demand loans or the refusal to renew time loans. In either event a default upon the funded debt is almost inevitable. In 1885 the Buffalo, New York, and Philadelphia obtained an extension on its current debt to allow time for response to a call upon the shareholders for assessments. With the failure of this measure, the road went into the hands of a receiver.[15]

Insufficient Working Capital.—The failure of a company to put out new securities to represent capital expenditures has often caused difficulty in times of disturbance in the financial market. The New York, Lake Erie, and Western receivership of 1884 was the result of an attempt to finance large additions to property out of the proceeds of temporary loans.[16] But demands for fresh capital may arise at a time when there is no market for securities except at a ruinous discount, to accept which would be as disastrous to the financial position of a company as actual default. Under such circumstances, application is usually made for receivers, that the interests of all may be conserved.

Effect of General Business Conditions on Railroad Earnings.—Among the factors to be considered by those charged with railroad management is the fluctuation in earnings

[14] *Ibid.*, LVI, 464.
[15] *Ibid.*, XL, 213, 624.
[16] *Ibid.*, XXXIX, 349.

due to changes in general business conditions. Examination of the statistics of railroad earnings for a period of years will serve to show the importance of considering this relationship. It is necessary, therefore, that a railroad corporation be kept at all times in a condition to meet maturing credit obligations, and to this end that its affairs be conducted with direct reference to business activity and depression. The nature of the traffic carried by any particular railroad will determine to a great extent the possible effect of a period of financial distress. If it be a railroad like the Long Island, which serves a large urban community, it will have not only a steady volume of commutation traffic but also a constant demand for transportation of food products and other varieties of traffic necessary to the residents of a city. If it be a railroad like the Pennsylvania which serves a large territory, its traffic may be so diversified that a falling off in one variety of traffic will be made good by an increase in another. If, however, it be a railroad like some of the granger lines, which depend largely upon a single industry for traffic, a crop failure or any other unfavorable influence affecting production will cause an immediate loss in earnings. As it is rarely possible to reduce operating expenses to an extent sufficient to conform to decreased earnings, a business depression always results in the insolvency of those railroads which have allowed themselves to become burdened with an excessive weight of floating debt.

Inadequacy of Early Reorganizations.—Insolvency has been not infrequently a recurrent affliction; for in many cases, particularly in the early period, reorganization was effected too speedily to allow a careful examination to be made into the causes of default, and an application of adequate measures of relief. The Atlantic and Great Western passed through a period of receivership in 1867

and another in 1869, but it was again in financial straits in 1874.[17] The cause for this has been set forth by a careful student of the subject:

In those failures which took place before 1876, reorganization or settlement was speedily effected as a rule. The trouble was, in this case, that it was done altogether too speedily to be permanently done. Default in interest on bonds being the immediate cause of embarrassment, a settlement with bondholders gave the management a free hand to carry on the same or similar policy as before, without having taken the trouble to go to the root of the matter and get a thorough understanding of the situation. It was often impossible to do so for want of access to information. Managers often avoided or failed to give out detailed reports of the condition of the property in their control. A settlement was patched up which could hardly last, because it was based on a thoroughly false conception of the railroad as an institution in its relation to social interests. The railroad had not yet come to be regarded in its twofold aspect, both as a social institution required for the community and as a financial corporation bound to discharge its obligations to the investor. The rôle which it was still playing in many parts of the country was that of an exploiter of the community and creditor alike for the benefit of an inside clique which could not or would not be made responsible to the stockholders in whom the title to the property lay. The stockholders themselves had frequently exhausted their resources in building, and had little credit or cash left to tide the property over a year of deficit in income. Thus the management and the bondholders came to control the situation, in which the two other interests of the stockholder who had reached his limit and the community were in danger of being lost sight of. Under these conditions the railroads which failed in the early seventies were not really reorganized —they were simply regalvanized.[18]

[17] *Ibid.*, XIX, 617.
[18] Crowell, "Railway Receiverships," *Yale Rev.*, VII, 326.

CHAPTER XIII

RECEIVERSHIP

The Receiver.—A receiver is an officer appointed by a court, as an impartial person to take into custody property which is the subject of litigation, when it does not seem equitable that any of the contending parties should be allowed to have control. The office is that of a minister or agent, subject to the orders of the court and with little or no discretionary power; and such authority as is given must be exercised for the benefit of all the parties interested until it is determined which one is entitled to actual possession. The receiver's function is to preserve the property from waste or destruction, to collect the revenues and proceeds, and to make final delivery according to the priorities or rights of those whose claims have been judicially approved. But while the purpose of a receivership was originally to close out the affairs of a business or estate, with the growth of corporate activity, the courts have found it necessary to enlarge the powers of receivers so as to enable them to perform the duties of managers, and thus make possible the final disposition of the property as a going concern.

Bondholders' Right to Possession and Sale.—In the mortgage or trust deed which is executed to secure the payment of an issue of bonds, title to certain property is conveyed to a trustee with power to sell in the event of default, and to apply the proceeds to the satisfaction of the debt. The time which must elapse between a default and action on the part of the trustees varies; it may be sixty days in one case, and a year or more in another. The number of bondholders who may require the trustee to

act also varies from one-tenth to one-half of those represented by him. Most of the early railroad mortgages were so defective technically as to make them inoperative. In some cases it was optional with the trustee to assert his rights after a default had been made. There was, therefore, no way to compel the trustee to begin foreclosure proceedings, if for any reason he did not see fit to do so. Others gave the bondholders the power to act only with the consent and coöperation of the trustee. They were further defective in that they failed to provide that a default in interest should also carry with it a default in principal, and thus they deprived the bondholder of the right of forcing a sale. These defects were serious indeed when it is considered that trustees were often chosen from among the officers or directors, so that the responsibility for enforcing the rights of bondholders was entrusted to those whose interests were opposed to the assertion of those rights. In such a situation, the interests of the bondholders were likely to be prejudiced. The trustee would sometimes neglect to enforce the payment of interest even when it had been earned; or taking advantage of the option given him in the mortgage, he would delay as long as possible before asserting his right to possession. In case he refused to foreclose, the bondholders were frequently obliged to accept the offer of the defaulting corporation to fund unpaid coupons into new securities. In some cases too long a time was prescribed before foreclosure could be sought under the mortgage.

Obstacles in the Way of Trustees.—But often when the trustee was able and willing to act, various causes were operative to defer foreclosures or to make such a sale either inadvisable or impossible. Many of the railroads which failed in this early period could not be foreclosed because their bonds bore the endorsement of a state, which consequently held a first lien upon the property. As a state

could have little desire to make the sacrifice attending a forced sale, the holders of junior mortgages were without means of redress except after much delay and loss. When in 1873 a foreclosure sale of the Jacksonville, Pensacola, and Mobile was advertised, the attorney-general of Florida took action under the state lien and delayed the sale for six years.[1] The state of Georgia in the same manner held up the sale of the Macon and Brunswick from 1873 to 1880.[2]

Public Policy Against Segregation of Properties.—Another factor which tended to delay foreclosure was the poor physical condition of insolvent roads, which necessitated extensive repairs and replacements before the property could be brought up to a standard at which profitable operation would be possible. Again, as railroad systems were gradually built up through the consolidation of separate properties, they became too large to sell to any outside purchaser; and to allow a system to be dismembered is to decrease its earning capacity and so lower the price at which it may be sold. Moreover, as these separate properties bore different mortgages, each with its trustee, it was found impossible for a trustee to act without injury to the security of the bonds which he represented. It became apparent, therefore, in repeated instances that there was need for a disinterested official to operate railroads in default that the public might receive uninterrupted service, and that the bondholders might be protected in their rights. In some instances the mortgage trustee was the most eligible candidate for this position of manager. Thus when in 1852 the Vermont Central became embarrassed, the directors surrendered the property to the trustee of the first mortgage bonds, who operated it for three years.[3] The Hartford, Providence, and Fish-

1 *Commercial and Financial Chronicle,* XVII, 155, XXVIII, 599.
2 *Ibid.,* XVII, 53, XXX, 248. 3 Annual report, 1855.

kill was operated by the mortgage trustees for about twenty years prior to 1878,[4] and the trustees under the several mortgages of the St. Vincent extension of the St. Paul and Pacific took possession in 1876, and operated the road until it was foreclosed three years later.[5]

Limitations of Trustee as to Management and Sale.—In case it was possible for a trustee to manage a property in default so successfully as to satisfy the claims of the bondholders out of the earnings from operation, he could not retain control, but must surrender possession to the former management, however incompetent. Moreover, it was early discovered that the rights of bondholders could not be enforced according to the wording of the mortgage, and that there were practical obstacles in the way of a sale. In but few instances have the bondholders succeeded in getting possession of an important railroad. In many instances, on the other hand, they have had not only to fund their coupons, but to submit to a reduction of principal or interest, to submit to the prior payment or funding of floating debt, and even to pay a cash assessment to make possible the restoration of the property to proper physical condition while the shareholders have remained in full control. This discrepancy between legal theory and practice may be accounted for to some extent by the manner in which trustees were appointed, but more by the fact that the security of any particular issue of bonds was indefinite because of the large number of separate issues. The necessary result was agreement to an arrangement which would require the waiving of particular rights for the benefit of common interests, in order that there might be no serious injury to the earning power which determined the value of the bonds.

Complexity of Interests in the Property.—The complexity of interests in railroad property has also tended to

[4] *Chronicle,* XXII, 304; Bayles, Providence, I, 282.
[5] *Chronicle,* XXIII, 379; XXVIII, 495.

make difficult the literal enforcement of the terms of a mortgage. There may be bonds secured by a lien upon a particular portion of the road, and others secured by a lien upon the entire system including the securities of controlled companies. There may be bonds secured by liens upon separate parcels of property. All these varieties of bonds depend for their value upon the uninterrupted operation of the system as a whole; yet notwithstanding this obvious fact, each mortgage states specifically the separate lien of its bonds upon some particular piece of property, or what is but little better, its claim upon the entire property subordinate to the various mortgages which may precede it. In other words, the mortgage asserts that it has a lien on a piece of property. The value of that security depends upon the revenue to be obtained from it. But this revenue depends upon the position of this piece of property as an integral part of a large railroad system, upon the other parts of which the holders of the bonds in question have no claim whatever.

Earning Power the Real Security.—The real security of a railroad bond is not stated in the mortgage. Under these circumstances, even if his interest be in default, the holder of such a bond may not foreclose without heavy loss, because the act of foreclosure would seriously impair the value of the property concerned by taking it out of connection with the general system. Nor, on the other hand, is the holder of a general or "blanket" mortgage bond in a better position. His lien is usually subordinate to first mortgages on particular portions of the line, and these must be paid off before he can come into possession. To raise an amount of cash sufficient to pay all the prior claims upon the different portions of a railroad system is a task which is almost impossible and rarely attempted.

Position of Shareholders.—Shareholders may oppose foreclosure sales on the ground that their rights would be

seriously injured, as indeed they would if a sale were forced at a time when no one were willing to purchase. They may advance the claim that the selling price of the road at a time when it is in serious difficulties, and perhaps also when general financial stringency has depressed the value of all property, is no fair criterion of its value under normal conditions. They may present evidence, also, tending to prove that under more favorable circumstances the earnings of the road would be more than sufficient to pay interest, and that their shares, which would be entirely wiped out by foreclosure sale, are in reality a claim to potential earnings and in equity entitled to consideration.

The Public Interest.—The interest of the public is also opposed to the assertion of the express terms of a railroad mortgage when this would result in the dismemberment of systems with the consequent disturbance of shippers, and in such an event the courts will be quick to act to prevent strict enforcement. Yet the rights of bondholders may be said to be protected as much as possible, though it is only in rare instances that a railroad has been sold at foreclosure for the benefit of its creditors. Some basis of settlement is usually found, and pending adjustment the property subject to default is placed in the control of a receiver.

Receivership a Necessary Expedient.—During the early period, extending from the fifties to about 1880, many insolvent railroads were put in charge of receivers, but it was not until the late seventies that receivership had developed into something entirely distinct from trusteeship. It was then that the need became apparent for a form of administration adequate to satisfy the conflicting claims to railroad property in default. So long as mortgagees were compelled to rely upon trustees for the enforcement of their rights, and so long as the instrument itself was technically

defective, railroad managers might default at will upon interest payments, relying upon their ability to make some sort of agreement with the secured creditors which would leave them in control. Even when it was possible to obtain the consent of bondholders to fund unpaid coupons, the arrangement had the effect of adding to fixed charges, and a recurrence of insolvency usually followed. The Atlantic and Pacific in 1873 succeeded in funding the coupons which were to fall due within the next two years upon all except its first mortgage bonds, but subsequent insolvency led to the appointment of a receiver in 1875, as the only means of meeting the situation.[6] Trusteeship failed, and in its stead came receivership, the rise of which in the words of Doctor John F. Crowell, "is the history of the evolution of responsible management in an entirely new species of corporate enterprise, involving a unique complex of interests individual and social."[7]

Conflicting Interests.—It is a principle of equity that a receiver will not be appointed in cases where there is an adequate remedy at law for all contending parties; but the great number of conflicting interests in railroad properties so complicates the situation that a receiver is usually named with little hesitation when it appears to the court that a default is imminent. The public has interests which must be respected. Aside from the matter of uninterrupted operation, and considerations of safety and convenience, through states or municipalities the public has often had important financial interests in railroads as guarantor of bonds, secured creditor, or shareholder. The interests of individuals are even more varied. As a shareholder one may have an ordinary or a preferential interest in proprietorship, with definite liabilities in the event of default, and corresponding rights to the proceeds of the cor-

[6] *Ibid.*, XVIII, 7; XXI, 440; XXIII, 278.
[7] Crowell, "Railway Receiverships," *Yale Rev.*, VII, 330.

porate estate; or one may have such interests in a subsidiary company, the shares of which may or may not be guaranteed as to dividends by the controlling corporation. The variety of credit claims upon railroad property is extensive. There are the general mortgage bonds, secured by a first, second, or third lien upon the entire property; divisional bonds, extension bonds, and branch line bonds, whether guaranteed or not; bonds secured upon separate parcels of property, as bridges, terminals, equipment, and real estate; income bonds; and collateral trust bonds secured upon shares which represent control of subsidiary lines. Other individual credit claims are represented by short term notes, usually secured upon collateral; bills for material and supplies; unpaid wages; judgment claims for loss, breach of contract, injury, or damage; and unadjusted claims. Other railroads are also concerned, either as guarantors, holders of securities, or claimants for traffic balances and rentals.

Solvent Receivership.—Companies which were perfectly solvent have sometimes petitioned for the appointment of receivers in order that they might be relieved from embarrassing agreements. The Indianapolis, Bloomington, and Western was placed in the hands of a receiver in 1886, in order that a dispute over the terms of its lease of the Cincinnati, Sandusky, and Cleveland might be judicially settled.[8] The St. Louis, Vandalia, and Terre Haute was committed to the custody of the court in 1902, in order that an end might be put to the controversy between the minority shareholders and the Terre Haute and Indianapolis, representing the Pennsylvania company, over the matter of distribution of earnings.[9]

Application for a Receiver.—It was once the practice to appoint receivers in response to applications of certain creditors, who represented that such action was necessary

[8] *Chronicle,* XLIII, 23, 515. [9] *Railway Age,* XXXIV, 330.

to preserve the integrity of the property. Such a tions were usually opposed in the court by the man and there was opportunity to learn all the essential in a case. But in 1884 the Wabash, St. Louis, and Paci railway itself applied for a receiver on the ground tha the protection of the court was necessary to prevent the holders of the separate mortgages from dismembering the system, which was made up of fifty-eight original companies, aggregating 3600 miles, and extending into six different states. The mortgages numbered thirty-eight. Some of them covered the property of constituent companies; others applied to separate divisions; and over all was one general mortgage.[10] No notice of this application was given to any of the bondholders, or to any of the representatives of the creditors, except the trustees of the general mortgage. Receivers were appointed, however,[11] and the action was upheld by the court. This inaugurated an era of "friendly" receiverships; for since that time it has become the general practice for a railroad in danger of default to file an application on its own behalf and secure the appointment of a receiver of its own choosing, thus preventing the creditors from pressing suits for foreclosure under the terms of their mortgage.[12] President Huntington of the Chesapeake and Ohio obtained the appointment of a receiver for that company in 1887, upon representation that while no default had been made, the railroad was indebted to him to the amount of $1,765,000. This was on account of loans to provide for expenditures which should have been paid out of current earnings.[13] The Atchison receivership in 1894 was

[10] *Chronicle,* XXXVIII, 639.
[11] Wabash, St. Louis, and Pacific v. Central Trust Co., 22 Fed. Rep., 272.
[12] Chamberlain, "New-fashioned Receiverships," *Harvard Law Rev.*, X, 139-49.
[13] *Chronicle,* XLV, 572.

brought about by application of the directors, and the appointment was obtained with secrecy and despatch.[14]

But early in 1884, before the Wabash receivership, the president of the New York and New England declared that attachments were liable to be put on the property, and at two o'clock in the morning, the directors obtained the appointment of the president as temporary receiver, petition for such action being entered by an English bondholder.[15] Bondholders and shareholders may join in the application, as in 1895 when the Norfolk and Western made a statement of financial condition, and the bondholders in anticipation of a default, sued for the appointment of a receiver. The directors admitted the truth of the charges, and joined in the petition, which was granted.[16]

Secret Application.—In this manner the arrangements are all made in advance; and if the directors do not choose to make application themselves, some creditor may be easily found who will allege that the company is liable to default. Upon confession of the truth of the charge by the officers of the company, the court will take the property into its control. Instances have been frequent where creditors have obtained the appointment of receivers by means of a secret application. Thus the Grand Trunk railway in 1896 threw the Central Vermont into receivership upon the plea that it was a large holder of floating debt, and that if other creditors should press for payment, the Central Vermont would be dismembered and unable to pay. This action was a surprise to the officials of the Central Vermont, even the president, who was named as one of the receivers.[17]

Application by Public Officials Proposed.—Following the principles governing the appointment of receivers, it

[14] *Ibid.*, LVIII, 42.
[15] *Ibid.*, XXXVIII, 30.
[16] *Ibid.*, LX, 259.
[17] *Ibid.*, LXII, 588, 634.

would seem that the public, through some proper official, might be allowed to ask the court to appoint a receiver, particularly in cases where the action or inaction of creditors or the management threatens to interfere with service. In the case of protracted labor controversy, for example, when the contending parties are unable to come to an agreement, resort to a court by a public official would insure the public interest in its right to safe and uninterrupted service.

Qualifications for a Receiver.—It was once an established principle that to be eligible as a candidate for receiver, one must have had no connection with the defaulting enterprise in an official capacity; for a receiver should be a disinterested person. But in the case of railroads this rule has been rarely observed, particularly since the Wabash decision, when a former president of the corporation and one of the directors was appointed receiver. The affairs of a railroad are so involved in technicalities that a receiver must have been trained in the railroad service, and the relations of each system are so complicated that the range of choice is often limited to officials who have been connected with the old management. Usually such officials are also heavily interested financially. This has afforded opportunities for grave abuse, because if there has been mismanagement, the friendly receiver may not be disposed to disclose the source of difficulty and aid in the work of reorganization. To avoid this danger two receivers are often appointed; and while one is chosen from among those technically familiar with the management of the property, the other is a representative of important outside interests. This makes a working arrangement possible, and keeps down hostile criticism, thus leading to reorganization in the shortest possible time. If the parties to an application agree upon a candidate, the court will generally appoint him in the absence of evidence that he is in any

way responsible for the embarrassment which makes the receivership necessary. Similarly, the court will remove a receiver upon evidence that his affiliations are such as to unfit him for disinterested service. Thus the bondholders of the Leavenworth, Lawrence, and Gulf in 1875 protested against the appointment of a representative of the competitive Missouri River, Fort Scott, and Gulf.[18]

Jurisdiction of Receivers.—In cases where a railroad extends through several states, the appointment of the principal receiver may be sought in the state in which it has its principal office, and ancillary or auxiliary suits must then be entered in each of the other cities. Ordinarily, the same receivers will be named in these states as a matter of comity. Application is usually made, however, not to a state court but to a United States court; but here the same rule applies in cases where the line extends beyond the jurisdiction of a single court. The court which first obtains jurisdiction retains it in all matters concerning the management of the whole property, as was originally held in a case concerning the Fort Wayne, Muncie, and Cincinnati railroad. Receivers for this road were apopinted by an Indiana court in 1874, but upon application of the bondholders, the United States circuit court removed them. It was finally decided that the state court having first taken cognizance of the controversy was entitled to retain jurisdiction, and this rule has been generally approved.[19] But in another case which arose the same year, a federal court appointed a receiver for the Burlington and Southwestern, and instructed him to demand possession from the receiver who was already in control by virtue of the appointment of an Iowa court. A compromise was finally effected, by which both receivers

[18] *Ibid.*, XX, 41.

[19] Gaylord v. Fort Worth, Muncie, and Cincinnati Railroad, 6 Bissell (U. S.), 286.

resigned in favor of a representative of the bondholders named by the federal court.[20] This rule was also challenged in 1895, in connection with the receivership of the Northern Pacific. This line runs through the seventh, eighth, and ninth United States judicial districts, and the judge in the ninth district refused to recognize the court for the seventh district as the court of primary jurisdiction, notwithstanding that the original suit had been entered there. Four justices of the United States supreme court, acting as justices assigned to the several districts, upheld the principle that the court which first takes jurisdiction should be recognized as the one having primary authority.[21]

Financial and Administrative Aspects of Receivership.— It is the primary function of the receiver to operate the railroad under his control, subject to the orders of the court, until the affairs of the corporation are settled. Operation of a bankrupt railroad, however, is a comprehensive term, covering almost any expenditure which will maintain or increase earning power. Upon coming into control, a receiver usually finds the property in a dilapidated condition, on account of the attempt of the former managers to retrench and thus avert default or to pay unearned dividends to keep up the market for securities. The rails are badly worn, the ties in need of replacement, and the rolling stock and structures require extensive repairs. In some cases the condition of the tracks and structures has been such as to render operation dangerous. In 1893 the Michigan commissioner of railroads found that the line of the Toledo, Ann Arbor, and North Michigan was a source of public danger, and ordered the speed of passenger trains reduced.[22] The receiver must be not only

[20] *Chronicle*, XIX, 397, 477; xxi, 441.
[21] *Ibid.*, LXI, 532, 558, 1065; LXII, 233.
[22] Ann Arbor Railroad, Annual report, 1898.

an operator, but he must also be able to restore the working efficiency of the property. In the Atchison receivership of 1893-5 the receivers had charge of the operation of a system of 4500 miles, with indirect control of about 2000 miles of subsidiary lines. During this period the rolling stock was overhauled and repaired, large numbers of rails and ties were replaced, and generous expenditures were made for the filling in of trestles and the reduction of the mileage of wooden bridges.[23]

In some instances receivers have been empowered to undertake the construction of additional mileage, either to complete work which was interrupted by the default, or to form some advantageous connection. Usually, however, the number of miles constructed has not been over ten or fifteen. But in 1873 the receivers of the St. Vincent extension of the St. Paul and Pacific were authorized to complete unfinished portions of the road in order that a valuable land grant might not be allowed to lapse.[24] By a second order in 1878 they were instructed to extend the main line sixty-five miles, and to build eighty miles of branch lines.[25] Over thirty miles of the Columbia, Piqua, and Indiana railroad were built by the receiver in 1858-9; [26] and several short extensions, aggregating seventy-three miles, were built by the receivers of the Missouri, Kansas, and Texas in 1888-91.[27]

While a receiver may make contracts in matters involving small outlays, a special order of the court is required to give validity to agreements of a permanent nature. With such authority the receivers of the Missouri, Kansas, and Texas in 1869 leased a line 125 miles in length

23 Report of Walker and McCook, receivers, 1896.
24 *Chronicle*, XVII, 380.
25 *Ibid.*, XXVI, 575.
26 *Amer. Railroad Jour.*, XVI, 555.
27 *Railway Rev.*, XXXI, 375; *Chronicle*, XLI, 272; XLVII, 594; XLIX, 22; L, 590.

from the Kansas City and Pacific.[28] But a receiver is not bound to continue a contract entered into before his appointment, if to do so would divert the earnings from the purposes for which the receivership was created. The Central Vermont receivers in 1896 defaulted on the rental due under the lease of the Rutland railroad, but they continued the payments on the New London Northern, because the lease of that road had been profitable.[29] This also applies to car trust agreements; but in practice the receivers always find it to the advantage of the property to use the rolling stock held subject to such contracts.[30]

Interest Payments.—Where a receiver is appointed because of a default upon a junior mortgage, interest payments will be continued under the receivership at the discretion of the court. The Ohio and Mississippi, when already in the hands of a receiver, defaulted upon its first mortgage bonds in 1877. The court thereupon authorized the receiver to pay the interest upon those bonds, and thus prevent foreclosure.[31] The receiver of the Kentucky Central was in 1886 given leave to pay the interest upon the bonds of its proprietary line, the Maysville and Lexington.[32]

Payment of Back Claims.—Railroads when coming into the control of the court are usually heavily indebted for wages, materials and supplies, and balances on interline traffic, because managers in the face of declining revenues will defer the payment of operating expenses in the hope that a period of embarrassment may thus be tided over and a default avoided. The Wabash, St. Louis, and Pacific had $2,000,000 of such claims outstanding in 1884,[33]

28 *Chronicle,* XLIX, 22.
29 *Ibid.,* LXIII, 754.
30 Rawle, "Car Trust Securities," Amer. Bar Assoc., *Report,* VIII, 36-44.
31 *Chronicle,* XXV, 17, 187, 237.
32 *Ibid.,* XLIII, 634.
33 *Ibid,* XXXVIII, 707.

and the Norfolk and Western in 1895 had $350,000 due in wages alone.[34] It is customary for the court in appointing a receiver to order the payment of back claims of this character, which have been incurred within a reasonable time, usually six months. This allows unsecured creditors a prior right to the earnings during the period of receivership, and even to the fund received from foreclosure of the property itself; but the practice is justified upon the ground that the debts should have been paid out of current earnings at the time they were incurred, and that their payment by order of the court is nothing more than a restoration of diverted funds.[35]

Reduction in Wages.—As a receiver is an officer of the court, interference with his official acts is held to be contempt of court. Hence when an attempt is made to introduce economies through a reduction of wages, the court will if necessary enjoin employees from striking. In 1893 the Northern Pacific receivers made a cut in wages of from five to ten per cent. Upon remonstrance by the employees, the receivers obtained an order from the court directing them to put the reduced schedule into effect, and enjoining the employees from combining to quit without notice. This action was based upon the ground that a strike would paralyze the business of the territory served by the road, and cause general suffering through the cutting off of necessary supplies in the middle of winter.[36] This order was modified somewhat upon appeal,[37] and never finally passed upon by the supreme court; but it serves to em-

[34] *Ibid.*, LX, 259.

[35] Metcalfe, "Priority Over Mortgage of Debts Contracted by Railroads Before Receivership," *Central Law Jour.*, XXXIX, 241-4; Bispham, "Rights of Material Men and Employees of Railroad Companies as Against Mortgagees," Amer. Bar Assoc., *Report*, III, 167-85.

[36] Farmers' Loan and Trust Co. v. Northern Pacific, 60 Fed. Rep., 803.

[37] Arthur vs. Oakes, 63 Fed. Rep., 310.

phasize the power which a court of equity may use to carry out the purpose of receivership.[38]

Methods of Raising Money.—Money for repairs and improvements may be obtained either in the form of net earnings diverted from interest payment, or it may be raised through the sale of receivers' certificates. Both methods are usually employed. It is an easy matter to default on a larger amount of interest than is warranted by the actual deficit in net earnings, in order to expend the difference in improving the condition of the road. The bondholders have no redress unless they can show the court that the proposed expenditure is an improper and unnecessary outlay, and this is seldom the case. Receivers' certificates are interest-bearing evidences of indebtedness, backed by the pledged faith of the court that the property subject to its jurisdiction will be sold if need be to provide for their payment. They are negotiable only in the sense that they may be transferred by delivery or indorsement, and they are issued only for a short term. Their claim upon the property is usually prior to that of the first mortgage bonds, and they may be issued in the face of opposition of the holders of such bonds, on the ground that they merely appropriate in advance a portion of the value of the property in order that a greater value may be saved from destruction.[39]

Receivers' Certificates.—Certificates were at first authorized only in cases of extreme necessity, but their use has been extended to cover almost any expenditure which the court may think beneficial to the property. They may be used, however, only for the specific purpose named by the court at the time they are authorized. They are issued in several contingencies; when there has been a diversion

[38] Allen, "Injunction and Organized Labor," Amer. Bar Assoc., *Report*, XVII, 312-21.
[39] Myer v. Johnston, 53 Alabama, 237.

for the benefit of bondholders of earnings which should have gone to pay current expenses; when there is need for betterments and additions to property; and when the construction of additional mileage is advisable. In some instances they have been issued to redeem securities held against the floating debt, as in the case of the Northern Pacific in 1893.[40] Back claims for wages and supplies have often been paid out of the proceeds of receivers' certificates. The receivers of the Dayton, Fort Wayne, and Chicago in 1888 issued $370,000 of certificates to pay debts for labor and supplies incurred during six months prior to the default,[41] and the Atchison receivers were authorized in 1894 to issue $250,000 of certificates for back wages.[42] In the case of the Philadelphia and Reading, the principle was so extended as to allow the receivers to issue certificates to pay Drexel and company for past advances for interest on the consolidated mortgage bonds.[43] Appropriations for betterments and for additional equipment are regularly made out of the proceeds of these certificates. In 1889 the receivers of the Chicago and Atlantic were authorized to issue $250,000 in certificates to restore the road to proper condition,[44] and the receivers of the Atlantic and Danville issued the same amount for betterments in 1891.[45] The receivers of the New York, West Shore, and Buffalo in 1885 were authorized to issue certificates to the amount of $3,300,000 for the purchase of locomotives and machinery.[46] To complete the unfinished portions of the road, the receivers of the St. Vincent extension of the St. Paul and Pacific in 1873 issued debentures to the amount of $5,000,000,[47] and the receivers of the Chicago, Clinton, and Western were authorized in 1876 to

40 *Chronicle*, LVII, 376.
41 *Ibid.*, XLVI, 448.
42 *Ibid.*, LIX. 228.
43 *Ibid.*, XXXVIII, 731.
44 *Ibid.*, XLIX, 206.
45 *Ibid.*, LII, 462.
46 *Ibid.*, XL, 363.
47 Kennedy v. St. Paul and Pacific, 2 Dillon (U. S.), 448.

complete the line, and to issue certificates in payment.[48]

The bondholders in the Wabash case of 1884 protested against the issue of $2,000,000 of certificates, on the ground that as they had not sought the receivership, nothing could be placed in advance of their lien. The court ordered, however, that as the purpose of those certificates was to pay for back claims against the property, they might be given a lien superior to the general mortgage, but that all certificates issued for other purposes should rank after the bonds.[49] In 1894 the Northern Pacific receivers were authorized to issue $5,000,000 in certificates, secured by a lien on securities in the treasury and on the income of the property, and also by a lien on the property itself, subject to the general mortgage.[50]

Excessive Issues.—The extreme liberality with which courts have authorized the issue of certificates has necessarily resulted in abuse, and solvent properties have been loaded with indebtedness which has brought loss upon the bondholders. In the case of the Vermont and Canada, the debt of this character was sufficient to wipe out practically the entire assets of a road which was never in default save by agreement.[51]

Termination of Receivership.—Receiverships may be terminated at the discretion of a court of jurisdiction, either upon the removal of conflicting claims, or as is generally the case, upon sale of the property and distribution of the proceeds for the satisfaction of the various claims. In the case of temporary appointments, the receiver will be dismissed when the court is satisfied that the causes of

[48] Bank of Montreal v. Chicago, Clinton, and Western, 48 Iowa, 518.

[49] *Chronicle*, XXXVIII, 731, 754.

[50] *Ibid.*, LIX, 651.

[51] Godkin, "The Courts as Railway Managers," *Albany Law Rev.*, XXXII, 45-7; "Receivers," by "A. Q. K.," *New Jersey Law Jour.*, V, 292-4.

embarrassment are no longer operative. Thus the receivership of the Denver and Rio Grande, which arose out of a controversy with the Atchison over the right of way through the cañon of the Arkansas, was terminated in 1888, when the United States supreme court handed down a decision in favor of the Denver and Rio Grande.[52] Similarly, when reorganization has been effected without necessity for foreclosure sale, the receiver is dismissed and the property restored to the company. Thus the New York and New England receiver was removed in 1885, upon representation to the court that the property was able to pay the interest upon the second mortgage bonds.[53]

Foreclosure.—An order of the court is required before a foreclosure sale may be carried out; and such an order will be given only in response to a petition from a responsible party in interest. When a court enters a decree in foreclosure, it gives instruction as to the manner of sale, and usually names an "upset" or minimum price. The property may be offered as a whole or in several parcels. The land grant and railroad property of the Atlantic and Pacific were sold separately in 1876,[54] and the Kentucky Central in 1887 was sold in two parcels, one made up of the roadway and leaseholds and the other of rolling stock.[55]

Reorganization.—Usually the court will wait until an acceptable plan of reorganization has been devised before entering a decree. When satisfied that the conditions of the sale have been complied with, the court will confirm the transaction, but this does not necessarily terminate the receivership; for in case payment is made in installments a default may occur. The receiver is therefore kept in control for such a period as is required to close out the affairs of the company to the satisfaction of the court, and to dis-

52 *Chronicle*, XXXI, 44.
53 *Ibid.*, XLI, 745.
54 *Ibid.*, XXIII, 278.
55 *Ibid.*, XLIV, 551, 653.

tribute the proceeds arising from the sale. Practically, receivership ends with the delivery of the property to the purchasers, but the receiver is discharged only after the court has had opportunity to examine his accounts and to release him from his bond.

CHAPTER XIV

REORGANIZATION

Why Reorganization is Necessary.—The principles of public policy and of justice which make impossible the strict enforcement of the contractual rights of bondholders and make expedient the appointment of receivers, require the parties in interest in a defaulting railroad to agree upon some plan of financial adjustment. The railroad as a public highway must be operated; and until the corporation is able to effect a settlement, the mortgage trustee or the receiver must attend to its management. Even after the properties are closed out by judicial sale, there is the same imperative demand for uninterrupted service. A thorough overhauling of financial organization and relationships is usually necessary to restore an insolvent railroad to a condition of stability.

Special Reasons for Re-adjustment without Foreclosure.—Reorganization may be effected without resort to foreclosure; in which case the existence of the old corporation continues unaltered, the only change being the retirement of old bonds and usually of the old shares, and the issue of new bonds and shares in their place. Leaving out of consideration those railroads which have been in the hands of temporary receivers, certain cases may be cited in which for special reasons railroad property in default has not been foreclosed but restored by the receiver to the former management. The Philadelphia and Reading was thus surrendered by the receivers in 1884, and again in 1887, because it was then thought that without the original charter there could be no way under the Pennsylvania constitution of 1874 to continue the relationship with the

Philadelphia and Reading Coal and Iron company.[1] The International and Great Northern in 1892,[2] and the Fort Worth and Denver City in 1895, were restored to the original proprietors, because under their charters they were immune from much of the Texas restrictive legislation.[3] The affairs of the Wisconsin Central were readjusted without foreclosure in 1879, because the tax exemption upon its land grant could not be transferred to another company.[4] In the absence of some such cause, it is possible to bring the conflicting interests to an agreement only when the securities are closely held, as in the case of the Wisconsin Valley in 1878,[5] and the Chesapeake and Ohio in 1886.[6] But the Missouri, Kansas, and Texas was restored to the old management after the receivership of 1888-91, because of the general belief that the embarrassment had been due to the trickery of Jay Gould, who had operated the road for the benefit of the Missouri Pacific.[7] And the Texas and Pacific, which had been sold under foreclosure in 1887, was reorganized by agreement of all parties in interest in 1888, when that sale was unexpectedly set aside by a higher court.[8]

While the term "reorganization" has been loosely applied to all measures employed to readjust corporate finances, it is customary to restrict its application to those proceedings by which the affairs of a corporation are closed out through judicial sale and taken over by a new corporation. A general agreement of the parties in interest, according to this view, must result not in a reorganization, but

1 *Commercial and Financial Chronicle,* XXXIX, 494; Poor's Manual, 1887: 281.
2 *Chronicle,* LIV, 366.
3 *Ibid.,* LXII, 40.
4 Annual report, 1879.
5 Cary, "Organ. and Hist. of the Chicago, Milwaukee, and St. Paul," 244.
6 *Chronicle,* XLVII, 81, 410.
7 *Ibid.,* XLVII, 256.
8 *Ibid.,* XLV, 643; XLVI, 539; XLVII, 532.

in a recapitalization or a compromise settlement of corporate indebtedness.

The Principle Underlying a Mortgage.—English railroad mortgages constitute liens not upon the body of the corporate estate but upon the franchise for collecting tolls, which is in effect a pledge of earnings. Thus a distinction is recognized between railroads and corporations of a purely private sort. In this country railroad property has been mortgaged upon the theory that in case of default, the creditor may foreclose, and satisfy his claim out of the proceeds of the sale. While this was carried out in numerous instances in the early period, and the share capital and general debts were wiped out, it was not long before it was seen that a literal enforcement of the terms of the mortgage worked injustice to subordinate interests. Shareholders soon learned that they might resort to technical legal measures to embarrass the progress of foreclosure proceedings, and so force a compromise by which they might be allowed to continue as parties in interest by submitting to an equitable sacrifice. A reorganization including all the conflicting parties has therefore come to be recognized as the only way to bring about foreclosure within a reasonable period, and restore the affairs of a defaulting corporation to a proper working basis. In consequence, "strict" foreclosure, involving the extinction of share capital and junior liens, is no longer exercised save in exceptional cases; and foreclosure proceedings in advance of the adoption of a plan of reorganization are usually instituted only for the purpose of bringing some recalcitrant party within the terms of the agreement.

Administrative Purpose of Reorganization.—A financial reorganization of a railroad company is a non-judicial means whereby a "settlement" is effected, usually, however, after action has been begun in court for the settlement of such claims, in lieu of payment of the claims of all parties

in interest against the insolvent debtor. The administrative purpose of the reorganization is to relieve the court and its receiver of responsibility for the management of the property by placing it in the hands of proprietors who are competent to conduct the affairs of the corporation in such manner as the public interest may require, and who are able to meet the obligations of the corporation to its creditors. In most cases the settlement by sale of conflicting credit claims against a railroad company is manifestly impossible. The corporation itself seeks relief; and the several parties in interest find it to their advantage to reach some form of agreement for the readjustment of rights which will receive approval by the court.

Financial Purpose of Reorganization.—The object which is sought through reorganization is to remove the sources of financial difficulty, and thus to relieve all parties in interest of the results of default. This may involve payment of the floating debt and refunding of back claims for interest and for other purposes, reduction of fixed charges, and provision for working capital and betterments. The payment of the floating debt and the refunding of interest is of first importance, since non-payment of these is usually the immediate cause of insolvency. Otherwise they must continue to be a menace to the successful management of the corporation until they have been paid or financed in such manner that they may be gradually reduced during a definite term of years. The physical condition of the property next demands attention; since without roadbed, track, bridges, and equipment in proper condition, the company would be unable to handle traffic safely and economically, the public interest could not be served, and the rights of investors would be unprotected. Fixed charges must be reduced, as inability to meet them and at the same time provide adequately for operation and maintenance is the chief cause of the floating debt.

Reorganization Committees.—Immediately after the appointment of a receiver, it is the practice to form committees to represent the different classes of security holders and to protect their interests in the reorganization. Usually such committees are self-constituted. A few large individual holders will usually appoint themselves, and seek the support of other holders of the same issue. Assenting securities are placed on deposit in a trust company, and when the majority of an issue assents and pays the small assessment necessary to defray expenses, the committee becomes representative. Sometimes more than one committee is formed to represent a single issue. In some cases, also, committees are appointed to represent foreign interests. When committees of shareholders are formed, it is usually because a plan of reorganization has been proposed which is manifestly unfair. The Texas and Pacific shareholders in 1886 united in opposition to a plan calling for an assessment to the amount of two-thirds of their holdings, and succeeded in reducing it to five per cent.[9]

The reorganization plan which is ultimately agreed upon is usually the result of compromise. Whether originally proposed by the representatives of the former management or by a committee of bondholders, many adjustments are required to remove the opposition of the other parties in interest. Some of the committees representing special interests may have little foundation upon which to base their claims, but all have power to annoy and delay those who are most concerned in bringing affairs to an equitable working basis. Plans which are put forth by the former management rarely become effective, for bondholders are likely to suspect that the proposed remedy is inadequate, and even that it may be designed to divert attention from the real cause of the difficulty. The directors of the Atchison,

[9] *Ibid.*, XLII, 632.

however, proposed an acceptable plan of reorganization in 1889.[10]

Bankers as Disinterested Parties.—When conflicting interests are unable to come together upon any practicable basis, there must be resort to a disinterested party. With the reorganization in charge of a banking house, there is less suspicion on the part of the representatives of special interests. There is also more opportunity to learn the actual state of affairs. After three plans for the reorganization of the New York, West Shore, and Buffalo, had been abandoned, the affairs were placed in charge of J. P. Morgan and company, who formulated a plan upon which agreement was possible.[11] In the same way this house took charge of the reorganization of the Philadelphia and Reading in 1895 after two plans proposed by the reorganization committee had failed.[12]

Deposit of Securities.—In assenting to a plan of reorganization, the various committees and individual interests bring their securities together in a single depositary, and surrender them to the reorganization committee which has the work of rehabilitation in charge. When it has received the assent of a majority of the securities concerned, this committee will usually set a time limit within which further deposits will be received. Often a small penalty is imposed upon all securities deposited after a given date. When in 1888 the reorganization committee of the Chesapeake and Ohio had received deposits of seven-eighths of the securities of the company, it imposed a penalty of two per cent. upon all classes of bonds and one-half of one per cent. upon the shares which remained outstanding; and after ninety-six per cent. of the securities had been deposited, a time limit was set.[13]

Rights of Dissentient Interests.—Notwithstanding the

[10] *Ibid.*, XLIX, 504.
[11] *Ibid.*, XLI, 190, 242.
[12] *Ibid.*, LX, 43.
[13] *Ibid.*, XLV, 448; XLVII, 81.

opposition of a dissentient minority, the courts are usually disposed to favor reorganization plans when they are fair, and when the majority in interest approves them. This applies to bondholders as well as shareholders; for although bondholders are not necessarily bound by the will of a majority, the courts recognize that railroad bonds are a peculiar class of securities, and that the relationship among bondholders is analogous to that existing among the shareholders. In the words of the United States supreme court: "To allow a small minority of bondholders, representing a comparatively insignificant amount of the mortgage debt, in the absence of any pretense of fraud or unfairness, to defeat the wishes of such an overwhelming majority of those associated with them in the benefits of their common security, would be to ignore entirely the relation which bondholders, secured by a railroad mortgage, bear to each other." [14] Shareholders who do not subscribe to the terms of the agreement are removed from further participation in the affairs of the insolvent property, though they may escape absolute loss by selling out to those who are willing to comply with the conditions prescribed by the reorganization committee. Non-assenting bondholders have only the right to share in the cash proceeds of the foreclosure sale. Thus in the decree of sale of the property of the Houston and Texas Central in 1888, the court ordered that the $2,000,000 of first mortgage bonds (constituting one-fourth of the total issue) remaining out of the reorganization agreement should be paid off in cash.[15] In most cases bondholders gain from participating in the reorganization. The unassented bonds of the Union Pacific were paid off principal and interest in 1898, each receiving 103, while at the same time the assented bonds were quoted at 116.[16]

[14] Shaw v. Railroad Company, 100 U. S., 605.
[15] *Chronicle,* XLVI, 573. [16] *Ibid.,* LXVI, 84.

Advantage of Bondholders at Foreclosure Sale.—The plan of reorganization is usually agreed upon in advance of sale, and the courts will generally delay entering a decree until after this is arranged. It is customary, also, for the courts to allow the purchasing bondholders to turn over their bonds in payment, usually to the extent of ninety-five per cent. of the price. The bondholders, therefore, have the advantage in bidding, for any contesting party must provide cash. Even this advantage is not always sufficient to insure control. Interests representing the Atlantic Coast Line bought the Cape Fear and Yadkin at a foreclosure sale in 1898, in opposition to the reorganization committee, which was acting in the interest of the Seaboard Air Line.[17]

The new corporation which is created according to the terms of the reorganization agreement is free from the claims against the old company on account both of contracts and of debts, except those which were superior in lien to the bonds under which the foreclosure sale was effected. The purchasers of a railroad foreclosed under a second mortgage must therefore assume the entire amount of the first mortgage bonds. They are also bound by the terms under which the right of way was originally granted, and by such additional obligations as they agree to assume. On the other hand, special privileges such as exemption from taxation, which were not essential to the purposes of the old company, are extinguished by foreclosure. The formation of a new corporation after foreclosure does not of itself work the dissolution of the old company, though in most cases its affairs are immediately wound up. The old Northern Pacific railroad company, whose property was sold under foreclosure in 1896, is still in existence, and annual meetings are regularly held, notwithstanding the fact that the rights of the shareholders were wiped out.

[17] *Ibid.*, LXVII, 1355.

Sacrifices of Shareholders.—It is through the exchange of securities of the new corporation for the old issues that the purposes of reorganization are effected. The most pressing object to be attained is the payment of the floating debt, which generally consists largely of short term loans secured by collateral. Surrender of the securities constituting this collateral would involve such a sacrifice that it is not usually to be thought of. This was done, however, by the Missouri, Kansas, and Texas in 1876.[18] The reorganization committee must therefore provide the necessary capital out of the contributions of the shareholders and the proceeds of the new bonds. To do this it is necessary to determine how the loss shall be apportioned among the various parties in interest, and this is a task requiring the highest judgment and the fullest knowledge, both of the affairs of the particular corporation and of the world of finance. For the information of the Atchison reorganization committee a thorough physical examination was made, and the books of account for four years preceding the default were subjected to detailed scrutiny.[19] And the committee charged with the preparation of a plan for the reorganization of the Colorado Midland in 1895, deferred action until the property, which had been leased to the Atchison, could have time to demonstrate its independent earning capacity.[20]

Assessments.—The shareholders of an insolvent railroad are almost always justified in the belief that whatever the present value of their shares, the future will bring some return; therefore they are usually willing to submit to some sacrifice, provided they may thereby obtain an interest in the new corporation. This facilitates the work of the reorganization committee, for it provides a means by which money may be raised to redeem the collateral behind the

18 *Ibid.*, XXII, 447.
19 *Ibid.*, LIX, 876, 1006.
20 *Ibid.*, LXI, 557.

floating debt and to provide for the current needs of the property. Most reorganization plans, therefore, provide that shareholders may participate by purchasing a certain proportionate amount of share capital in the new company. The New York and New England plan of 1894 allowed preferred shareholders to buy new preferred shares to the amount of twenty-five per cent. of their old holdings and to exchange their old shares for new. This was in effect an assessment of twenty-five dollars a share, for which new shares were returned.[21] But whatever the need for current funds, the committee must restrict its demands upon the shareholders to such amounts as they will be willing to pay, for to levy an excessive assessment would result in a general surrender of the shares and so defeat the purpose of the committee. Close attention must be given to the opinions of each class of security holders, and arrangements made accordingly; for that plan is best which can be made effective. The proper amount of the assessment is therefore a matter of judgment. It usually ranges from five dollars to twenty dollars a share. Whenever a greater sum has been required, as in the case of the Houston and Texas Central in 1887, when an assessment of $71.40 was levied, it has been because the nominal capital was unusually small, or because of some other sufficient reason.[22] Aside from the willingness of shareholders to submit to an assessment, the practice is justified by the fact that during the period within which the interest upon the bonds is in default, money to which the bondholders have superior claim is diverted to the improvement of the property. When, therefore, shareholders are assessed after a period of receivership, the process is only a restoration of money by those who were primarily responsible for the default.

New Securities to Represent Assessment.—Usually, but

[21] *Ibid.*, LVIII, 762.

[22] *Ibid.*, LI, 84, 493.

not invariably, shares are given to represent an assessment, so that with a return of prosperity the amount may be made good out of earnings. The Norfolk and Western shares were assessed $12.50 in 1896 on both issues. In return the preferred shareholders received new preferred shares, and the amount of the assessment in new common shares. The common shareholders, however, received nothing for their assessment except the right to convert their old shares into seventy-five per cent. of par in new common shares.[23] Bonds have also been issued in return for assessments on the shareholders. In 1885 the shareholders of the Texas and Pacific were assessed ten dollars a share, and the amount of the assessment was represented by second mortgage bonds.[24] The shares of the New York, West Shore, and Buffalo the same year were exchanged at the rate of two of the old for one of the new shares, and the new shares were subjected to an assessment of five dollars each. In return for the assessment certificates were issued redeemable in first mortgage bonds at par.[25] Assessments are not always exacted as the price of permitting shareholders to continue as parties in interest, for there may be good prospect that current earnings, with the natural increase certain to follow a restoration of the property as a going concern, will prove sufficient for all immediate needs. The old preferred shares of the Detroit, Lansing, and Northern were exchanged under the plan of 1896 for an equal number of new common shares and not assessed.[26]

Partial Loss of Proprietorship.—But a sacrifice may be imposed in the form of a loss of proprietorship, as in the case of the Chicago, St. Paul, and Fond du Lac, which was reorganized in 1859 as the Chicago and North Western upon a plan by which new shares were exchanged for

23 *Ibid.*, LXII, 641.
24 *Ibid.*, XLIII, 163, 218.
25 *Ibid.*, XL, 626.
26 *Ibid.*, LXII, 319.

old at sixty cents on the dollar.[27] Conversion may be required into other forms of securities upon terms which either greatly reduce the possible return or make the chance for any return exceedingly remote. The Chicago, Dubuque, and Minnesota shareholders in 1876 surrendered all claim to proprietorship in exchange for a small number of new mortgage bonds, which were distributed proportionately.[28] The Chicago and Atlantic shares were exchanged in 1890 for income bonds at the rate of forty per cent.[29] and common shares of the Central Railroad and Banking company of Georgia were in 1895 converted into third preference income bonds at par.[30]

Assessment of Junior Bondholders.—Because the amount of the assessment which may be placed upon shareholders is measured by their willingness to pay, it has sometimes been necessary for reorganization committees to assess the junior bondholders. The practice has been followed, however, only when there has seemed no alternative. In the reorganization of the Fort Wayne, Muncie, and Cincinnati in 1881, the second mortgage bonds were assessed thirty per cent. and converted into new shares at par.[31] New securities have usually been given in such cases to represent the assessment. When in 1890 the second mortgage bondholders of the Cincinnati, Washington, and Baltimore were subjected to a call of five per cent., they received twice the amount of the assessment in second income bonds.[32]

Conversion of Bonds into Shares.—Not infrequently the two methods have been combined; the bonds being converted, and the amount of the assessment being returned in some inferior bond or in shares. The East Tennessee, Virginia, and Georgia income bonds were assessed in 1886

27 Annual report, 1865.
28 *Chronicle*, XXIII, 232.
29 *Ibid.*, L, 621.
30 *Ibid.*, LX, 1008.
31 *Ibid.*, XXXII, 577.
32 *Ibid.*, XLIX, 82.

and converted into second preferred shares at par, while the assessment was represented by first preferred shares.[33] The Atchison second mortgage bondholders in 1895 paid an assessment of four per cent., which was returned in the form of preferred shares, and the bonds themselves were converted into preferred shares.[34]

The Margin of Safety.—It is customary in reorganization proceedings to take the earnings for a period of years immediately preceding the default, and to formulate a plan which will allow a margin over fixed charges sufficient to insure stability. It is then necessary to determine the apportionment of these claims upon corporate income among the secured creditors and leaseholders. Our American system of financing construction out of the proceeds of bonds has encumbered railroad property with a confusion of liens. The result has been that immediately above the original first mortgage, there have accumulated separate strata of junior liens, each constituting a contractual liability. A large proportion of these junior securities were originally issued to contractors in payment for construction at extravagant prices, and they were almost invariably placed upon the market at heavy discount. Such bonds as these, it is the duty of the reorganization committee to examine closely to determine to what extent they have contributed to the earning capacity of the property. In doing this the committee will not be disposed to attach much weight to the terms of the mortgages. Such instruments at best give only nominal security, for it is practically impossible for their holders to enforce a foreclosure sale, as that would necessitate raising cash to retire the superior liens and to pay the heavy expenses of the sale. Moreover, experience has demonstrated that when interest charges have not been earned, the property

33 *Ibid.*, XLII, 186.
34 *Ibid.*, LX, 685.

subject to the lien will usually fail to sell for enough to pay off the bonds. "Railway mortgages," according to Greene, "are not sacred because of the strong legal terms in which they are drawn, but are dependent upon success in the business of transportation, differing in this respect from real estate mortgages, which rely more upon the prosperity of the whole community. . . . Our practice of railway receivership is thus a development of our own circumstances and a sort of compromise between the too-strong language of our mortgages and the actual conditions of the business of transportation."[35]

Reduction of Lien of Bonds.—Bondholders may be asked to sacrifice by submitting to a reduction of their lien, of their principal, or of their interest. Even the first mortgage bonds may not be exempt from disturbance. The New York, West Shore, and Buffalo first mortgage bonds were in 1885 converted into second mortgage bonds to allow a new first lien of $20,000,000 to be created.[36]

Mortgage Bonds Replaced by Income Bonds.—A reduction of principal may be effected by exchanging old bonds for part in new bonds of equal rank and part in a security which has only a contingent claim upon earnings. The holders of East Tennessee, Virginia, and Georgia consolidated bonds in 1886 were asked to receive in exchange sixty per cent. in new consolidated bonds and fifty per cent. in first preferred shares.[37] It was once the custom to create income bonds to exchange for regular mortgage securities. These were favored because on account of their name they would command a higher price than shares upon the market, and so enable their holders to divert the greater portion of their losses, and also because their interest claims could be enforced only when earned. But

[35] Greene, "Commercial Basis for Railway Receiverships," *Amer. Law Register*, XXXIII, 425.
[36] *Chronicle*, XL, 626. [37] *Ibid.*, XLII, 186.

it soon became evident that this new form of security, which professed to have the stability of a bond combined with the elasticity of a share, was a source of disappointment to the investor and of embarrassment to the management of the corporation. Instead of being a secured creditor, the holder of an income bond is merely a residual claimant to net earnings; and while he is entitled to interest in advance of the shareholders, he does not share in their power of control over the affairs of the corporation. "The security of the income bondholder," according to Doctor Edward S. Meade, "is the willingness of a board of directors which he has had no share in choosing, to pay over to him sums of money which they have a perfect right to expend on the improvement of the property, a task which is never completed." [38]

By Preferred Shares.—From the standpoint of the corporation, the income bond is equally unsatisfactory; for it interferes with further borrowing except by means of bonds secured by special liens on separate properties. The Atchison in 1889 placed an issue of income bonds immediately after its general mortgage, and so made it impossible to raise additional capital by the issue of more bonds.[39] For a corporation thus to impose needless restrictions upon its future policy is to give evidence of inefficiency in its management. Most reorganization plans, therefore, now provide that preferred shares shall be exchanged for discredited mortgage bonds. Such shares are entitled to dividends at a fixed rate, but only to the extent that they are earned. They possess every virtue of the income bond, and they give in addition a voice in the management. Most of the preferred shares on the market today were first issued in reorganizations.

Reduction of Rate of Interest.—Reduction of the rate of

[38] Meade, "Reorganization of Railroads," Amer. Acad. of Pol. and Soc. Sci., *Annals*, XVII, 235. [39] *Chronicle*, LX, 685.

interest on bonds has been a common method of cutting down fixed charges. Each of three separate issues of bonds of the Missouri, Kansas, and Texas was scaled one per cent. in 1889,[40] and the rate of the first mortgage bonds of the Colorado Midland was reduced from six to four per cent. in 1897.[41] Sometimes a larger principal bearing a lower rate is substituted for the old issue. The Northern Pacific plan of 1896 provided that each six per cent. first mortgage bond should be converted into $1350 in new bonds bearing four per cent. but having equal rank.[42] In other cases the reduction of interest claims may be temporary. The Atlantic and Pacific in 1876 issued new bonds to bear two per cent. for two years, three per cent. for two years, four per cent. and five per cent. each for a single year, and thereafter the original rate of six per cent.[43] A plan similar in some respects was adopted by the International and Great Northern in 1892. Here the bonds were scaled from six to four and a half per cent. for five years, and raised to five per cent. at the expiration of that period; but it was agreed that in the event of a default lasting ninety days the original rate should be automatically restored.[44] The Atchison in 1895 combined this feature with an issue of income bonds by exchanging for the old general mortgage bonds, seventy-five per cent. in new bonds of equal rate and lien and forty per cent. in adjustment bonds, which were income bonds through a period of five years and thereafter a fixed obligation. By this means, as the condition of the company improved, the bonds were restored to their former basis.[45]

Underlying Bonds not Disturbed.—However great the need of reducing fixed charges, those bonds upon which the interest has been unquestionably earned are not disturbed

40 *Ibid.*, XLIV, 544.
41 *Ibid.*, LXIV, 1226.
42 *Ibid.*, LXII, 528, 551.
43 *Ibid.*, XXIII, 85.
44 *Ibid.*, LIV, 203.
45 *Ibid.*, LX, 685.

in the reorganization. The underlying divisional bonds are almost never touched. Of late years first mortgage bonds have generally been found amply secured, and it is the consolidated bonds and other inferior issues which have been most affected. None of the divisional bonds of the Norfolk and Western were disturbed in the reorganization of 1896,[46] and the securities which thus escaped constituted a fifth of the total capital. In the St. Louis and San Francisco reorganization of 1896, only two-thirds of the securities were disturbed.[47]

Status of the Reorganized Corporation.—The reorganization committee may formulate its plan without regard to the rights of other companies in the matter of contracts. Such contracts whether in the nature of guarantees, leases, or traffic agreements, apply only to the old corporation, and cannot survive a foreclosure sale. It is therefore the privilege of the committee to enter into agreements which will be less burdensome to the new corporation, or to renew those which have been found satisfactory. In the matter of leases the inability of the owners of branch lines to make arrangements with other railroads usually gives the reorganization committee the advantage in determining rentals. Reorganization may therefore result in dropping off unproductive subsidiary lines. The Atchison in 1895 surrendered control of the Colorado Midland and of the St. Louis and San Francisco. The more usual effect of reorganizations, however, is to increase the mileage. This is brought about by a consolidation of the securities of the parent company with those of subsidiary lines. The mileage of the Northern Pacific increased from 3429 to 4374 in the reorganization of 1896; that of the Denver and Rio Grande increased from 1317 to 1686 in 1886. A notable increase was made by the Erie, which in the reorganization of the old New York, Lake Erie, and West-

[46] *Ibid.*, LXII, 641. [47] Poor's Manual, 1900: xcii.

ern in 1895 took over the Chicago and Erie and the New York, Pennsylvania, and Ohio under share ownership, and so extended its operated mileage from 544 to 1205.

Provision for Future of New Corporation.—While the receivers of railroads usually make generous outlays in order to bring the property up to a higher state of efficiency the need for such expenditures is never absent, and it is for the interest of all parties to the reorganization to know that betterment work will be continued under the new management. To some extent provision is made for this need when the current funds of the corporation are relieved from the weight of excessive fixed charges, but additional assurance may be required for the future. It is desirable, also, to allow the new management some latitude in the matter of acquiring title to branch lines, equipment, or other forms of property. Yet however much expenditures of this nature may result in permanent addition to earning power, the creditors will not be disposed to sanction an increase of capital. In many instances the reorganization agreement has provided that no increase of funded debt could be made without the consent of two-thirds of the holders of those issues which were compelled to submit to sacrifice. This has been sufficient to insure conservatism of management, but it has not allowed leeway for the performance of those activities which are for the best interest of all concerned in the property. For this reason it has become common practice in reorganizations to set aside a reserve of shares and bonds to be issued from time to time for specific purposes. The reorganized West Shore began operations with a reserve made up of $25,000,000 of bonds and $10,000,000 of shares for additional construction, betterments, and the purchase of equipment. The Denver and Rio Grande in 1886 was given a reserve of over $7,000,000, mostly in bonds, for the same objects. The Colorado Midland reorganization plan

of 1897 provided that $1,250,000 of bonds should be reserved for the purchase of the Busk tunnel; and the plan of the Atchison in 1895 set aside $11,000,000 in bonds and $9,000,000 in shares for the purchase of new lines. Provision has also been made in this way for the retirement of outstanding bonds, as in the case of the Central Vermont, which by the plan of 1898 set aside $3,375,000 for this purpose. In most cases of this sort, there are additional restrictions upon the directors in the form of limitations as to the amount of securities which may be issued at any one time. Thus $25,000,000 of bonds were set aside for new capital needs of the Northern Pacific in accordance with the plan of 1896, but only $1,500,000 were to be issuable in any one year.[48]

A plan of reorganization which shall be adequate necessarily requires much labor in preparation, and when once agreed upon by the conflicting interests it is of the utmost importance that nothing be allowed to render it ineffective. To this end it has become the general practice in the more recent reorganizations to arrange with an underwriting syndicate to guarantee the success of the plan by agreeing to advance the needed funds in all cases where security holders are unable or unwilling to participate. A syndicate was formed in connection with the reorganization of the Buffalo, New York, and Philadelphia in 1886 for the purpose of guaranteeing to take any part of the $23,000,000 of securities affected which might not assent to the plan.[49] At the reorganization of the Cincinnati, Washington, and Baltimore in 1890, a syndicate was formed to take over all shares and income bonds which might fail to pay assessments, and also to provide a sufficient amount of current funds to carry out the terms of the reorganization.[50] The effect of such an arrangement

[48] *Ibid.*, LXII, 551.
[49] *Ibid.*, XLIII, 48.
[50] *Ibid.*, XLIX, 82.

is to reassure doubtful holders of disturbed securities, and by showing them that others are willing to step in and take their places, induce them to make the temporary sacrifice necessary to retain their interest in the property. In most cases the underwriting syndicate does more than agree to take the place of dissentient interests. It guarantees the sale of new securities upon the market, and thus insures the new corporation of ample cash for its current needs. The reorganization committee of the Minneapolis and St. Louis in 1894 arranged with a syndicate to purchase $5,000,000, or half the total issue of first consolidated bonds, in addition to guaranteeing the $25 assessment upon each share.[51] In the Philadelphia and Reading reorganization of 1895, a syndicate agreed to take $4,000,000 of new general mortgage bonds and $8,000,000 of preferred shares, and to provide the immediate cash requirements under the plan by guaranteeing the assessments—a total guarantee of $28,000,000. In addition, this syndicate guaranteed the payment or extension of $20,000,000 of bonds maturing within the next two years.[52] A syndicate for the subscribed amount of $45,000,000 was formed to take care of the financial requirements of the Northern Pacific reorganization plan of 1896.[53]

The Voting Trust.—After a railroad has been reorganized and the receiver discharged, it is for the interest of the bondholders to have assurance that the property will be operated according to a consistent policy, and in such manner that the security of their mortgages will not be impaired. This is impossible unless control of the share capital be retained until it will have some value aside from its voting power. In some of the earlier reorganizations the bondholders were given power to vote at shareholders'

[51] *Ibid.*, LIX, 371.
[52] *Ibid.*, LXI, 1110.
[53] *Ibid.*, LXII, 553.

meetings in order that they might protect their interests. In 1860 the first and second mortgage bonds of the Pittsburgh, Fort Wayne, and Chicago were given one vote for each two hundred dollars par value, and the third mortgage bonds received equal representation with the shares.[54] In the reorganization of the Missouri, Kansas, and Texas in 1876, an arrangement was adopted whereby the possession and management of the property was given over to the Union Trust company of New York, trustee under the mortgages, to remain until two coupons should be paid in full on the first mortgage bonds. To assist in the management, provision was made for an advisory board, two members of which should be chosen by the mortgage trustee, and one each by the bondholders, the general creditors, and the board of directors.[55] Within recent years it has become the settled practice of reorganization committees to require from the shareholders, irrevocable proxies executed in favor of a voting trust, the members of which are chosen either by the mortgage trustee or by the banking house concerned in the reorganization proceedings. The voting trust elects the board of directors of the new corporation, but it is more than the agent of the shareholders. In it is vested the legal title to the share capital until such time as the conditions subject to which it is created have been fulfilled. To the shareholders are given certificates of beneficial interest, which may be transferred in the same manner as shares, but which may not be exchanged for shares until the dissolution of the trust.[56] The period for which a voting trust may continue in control is usually contingent upon the payment of a certain

[54] *Amer. Railroad Jour.*, XXXIV, 646.
[55] *Chronicle*, XXII, 305.
[56] See Burr, "Validity of Voting Trust Provisions in Recent Railroad Reorganizations," *Amer. Law Register*, XXXV, 413-37; Harriman, "Voting Trusts and Holding Companies," *Yale Law Jour.*, XIII, 109-23; Graser, "The Voting Trust in Railway Finance," *Railway World*, XLVIII, 547-8; Daggett, "Railroad Reorganization," 382-4.

number of dividends after the expiration of a specific term of years. The trust may be dissolved at any time, however, at the discretion of its members. The share capital of the Philadelphia and Reading was in 1895 placed in trust for five years and thereafter until the first preferred shares should receive full dividends for two consecutive years.[57] In 1897 the voting trust of the Southern railway was established for five years, but at the expiration of that time it was extended for another five years and for such further period as might elapse until a majority of shareholders on the date of an annual election of directors should vote for its termination.[58]

By means of the voting trust, therefore, the interests of the bondholders are safeguarded until such time as the body of the share capital acquires something in addition to speculative value. But the bondholders are not alone concerned with the proper management of the property. The owners of the preferred shares represent former bondholders, who were forced to convert some of their holdings into an inferior security. With efficient management, these shares will have stable value. It was a feature of the Northern Pacific reorganization plan that if after the termination of the voting trust the holders of the preferred shares should fail to receive the full dividend for any two successive quarterly periods, they should be given the right to elect a majority of the directors.[59] In the reorganization of the Norfolk and Western, the interest of the preferred shareholders were similarly protected when they were privileged to elect two-thirds of the directors during five years, unless before the expiration of that period they should receive three full yearly dividends.[60]

Results of Reorganizations.—Mr. William M. Acworth, the English authority on railroad matters, once said:

[57] *Chronicle*, LXI, 1110.
[58] *Ibid.*, LXXV, 442, 612.
[59] *Ibid.*, LXII, 551.
[60] *Ibid.*, LXII, 642.

> A very competent critic has declared that American receiverships reduce to manageable limits, while English reorganizations increase still further the previously excessive capitalization of a bankrupt railroad. Those who know how great railway systems like the Atchison, or the Denver and Rio Grande, or the Northern Pacific, have developed their capacity for public service since they got rid of their receivers and started afresh with liabilities which their income enables them to face with confidence, and can compare this state of things with that prevailing on numbers of small English railways, which are piling up year after year a load of debt which they can never hope to shake off, will be able to judge whether in this matter the experience of America would not be of value for our guidance in England.[61]

But this statement of the case is too favorable to American practice. It is true that reorganizations have greatly reduced the burden of fixed charges, but this has been accomplished at the expense of an increase in aggregate capitalization, which is in itself an evil. From a table, which was published in 1900, it appeared that while lines aggregating over 35,000 miles, had reduced their fixed charges twenty-nine per cent., they had increased their total capitalization nearly thirteen per cent.[62] A part of this increase was undoubtedly justified by the increased value of the reorganized property, and some of it represented the legitimate profits of syndicates, but much of it was the result of the practice of giving large bonuses of shares to facilitate the work of bringing conflicting interests to an agreement. While this method of inflation has been adopted by all the banking houses which have been concerned with the reorganization of railroads, its use by J. P. Morgan and company has been most extensive. In his testimony before the United States industrial commission, Mr. Thomas F. Woodlock condemned the practice of issuing such shares. "There was no necessity," he said, "to issue all that stuff. It is a wrong prin-

[61] *Economic Jour.*, IX, 69. [62] Poor's Manual, 1900: cvi.

ciple. What Mr. Morgan did in all his reorganization was to estimate the minimum of earning capacity and take care to get the fixed charges down to that, but when he came to charges that were not fixed, or to securities dependent on future prospects, people could pretty much help themselves.''[63]

[63] Report of the industrial commission, IX, 456.

CHAPTER XV

CONSOLIDATION

Conveyances, Leases, and Share-control.—Few phases of railroad activity have been so prominently and so continuously before the American people as consolidation. To shareholders and creditors it has always been a subject of vital importance because of its bearing upon the security and yield of investments; to cities it has appeared as perhaps the determining factor in the problem of differential rates; and to shipping interests it has seemed to exert the dominant influence in establishing the absolute level of rates. Yet there is little agreement as to what may be properly included within the meaning of the word. In its legal sense it applies only to those combinations in which either two or more corporations unite in an entirely new corporate body, or one corporation absorbs another without itself undergoing any organic change. But we are here concerned with not the process but the result; not technical but actual consolidation. Therefore it is proper to use the term in reference to conveyances and leases, and to all cases in which share ownership gives control. In so doing we are only adopting the usage which the courts, inconsistently enough, have established when interpreting statutes forbidding the consolidation of competing lines.

Union of Connecting Lines.—There has been from an early period a marked tendency toward railroad consolidation. It was inevitable that the short detached lines, built to serve local needs, should be extended to form connections with other similar lines and so become concerned in the handling of through traffic. In some cases,

notably the constituent lines of the New York Central and the Boston and Albany, construction was undertaken with this purpose in view; in others, as with the Eastern and the Boston and Maine, the crossing of state lines was an incident which compelled separate incorporation. In either event, consolidation was the only logical outcome of the situation. But there was much hostility among early railroad managers, and this spirit was often fostered by state authorities and local commercial bodies. So sharp was this rivalry that in some instances different track gauges were adopted in the attempt to subserve the interests of particular cities by hampering the growth of interline traffic. Each road adopted a traffic policy of its own, fixed its own rates and classifications, avoided traffic arrangements with other companies, and stoutly resisted all attempts to bring about the interchange of cars and the joint use of tracks.[1] It was at length discovered, however, that such a policy prevented the railroads from performing the functions for which they were projected and built, and that it was also unprofitable to the companies themselves. Shippers desiring to send freight to a distant point were compelled to deal with several different carriers, and to suffer the delay and loss incident to the transshipment of goods at junction points. Passengers were obliged to submit to frequent transfers, and to attend personally to the forwarding of baggage. Yet notwithstanding these obstacles, traffic steadily increased until it became apparent that new methods and more adequate facilities were imperative. The amalgamation of connecting lines was the response to this demand. With the removal of artificial restrictions, business expanded rapidly, and the railroads found that not only were they able to handle their traffic more readily but to do so at much less ex-

[1] See Bradbury, "Railroad Reminiscences," Me. Hist. Soc., *Collections* (2 Ser.), VII, 380-2.

pense. The result was larger profits, and eventually, lower rates.

Some Early Consolidations.—The consolidation in 1853 of the ten short lines between Buffalo and the Hudson river to form the New York Central was the most notable instance of this sort, though it was not the first. As early as 1838 the Philadelphia, Wilmington, and Baltimore, the Wilmington and Susquehanna, and the Baltimore and Port Deposit railroads were united to form a through line between Philadelphia and Baltimore under the name of the Philadelphia, Wilmington, and Baltimore.[2] In 1845 the Middleborough railroad, the Fall River Branch railroad, and the Randolph and Bridgewater, by a union of share capital, were consolidated as the United Corporation, later the Fall River railroad.[3] In 1854 the Northern Central railroad was formed as a consolidation of the York and Maryland, the York and Cumberland, and the Susquehanna railroads, and a through connection under one management established between Baltimore and Sunbury. In the West the Ohio and Pennsylvania, the Ohio and Indiana, and the Fort Wayne and Chicago were consolidated as the Pittsburgh, Fort Wayne, and Chicago in 1856; and the same year the Chicago and Aurora and the Central Military Tract railroads were united in the Chicago, Burlington, and Quincy.

Popular Opposition.—Such changes were seldom effected without opposition from either some of the parties in interest or the public. Even after the movement toward consolidation had got well under way, there was a tendency to limit a railroad's activities to the state in which it had received its charter. Thus the Bellefontaine and Indiana in Ohio and the Indianapolis, Pittsburgh, and Cleveland in Indiana were constructed as sections of a through line, but for a time after their completion they

[2] L. Md., 1837-8, c. 30. [3] "Hist. of the Old Colony," 48.

were operated separately. In 1856 the need for a closer relationship became imperative, but no attempt was made to form an interstate corporation to take over the properties of these companies. Instead, an agreement was entered into for the operation of the two lines by an executive committee representing both boards of directors, and this arrangement was continued until 1864 when the companies were finally consolidated.[4] This is evidence of the survival of that narrow spirit of interstate rivalry which had located the eastern terminus of the New York and Erie at Piermont in order to prevent New Jersey from deriving any benefit from the road, and which at a later period caused Pennsylvania to take advantage of its jurisdiction over a section of the shore of Lake Erie to hinder the westward extension of the railroads of New York. In New Jersey a tax was imposed upon all passengers crossing the state, and the courts approved the practice. While there had been considerable overlapping of state boundaries prior to the Civil war, there was constant difficulty between connecting lines, and also between railroad officials and state authorities, over the matter of through traffic.

Period of Trunk Line Development.—But it was only after the difficulty experienced by the federal government in obtaining continuous transportation of troops and military supplies that congress could be induced to exercise its constitutional authority in the matter. In 1866 a law was passed which granted to every railroad the right to carry persons and property from any state into another state, "and to connect with roads of other States so as to form continuous lines . . . to the place of destination" unhampered by state laws.[5] This law had an undoubted influence in ushering in the period of trunk line

[4] Vernon, Amer. Railroad Manual, 1873: 420.
[5] Stat. at large, XIV, 66.

development which followed. The immediate cause was the increasing rivalry for through traffic between the Pennsylvania, the Erie, and the New York Central. It had been the policy of the Pennsylvania to encourage the building of western connections, but to exert only such control over their management as was necessary to insure harmonious relations. In 1868 this was abandoned upon the discovery of a well-laid plan by which the Erie was attempting to absorb the Pittsburgh, Fort Wayne, and Chicago and other important western connections, and steps were taken to lease these lines and so create a system strong enough to withstand the onslaughts of competitors.[6] The Columbus, Chicago, and Indiana Central was leased in 1869 by the Pittsburgh, Cincinnati, and St. Louis in the interest of the Pennsylvania, which thereby gained control of a through line to St. Louis and Chicago. Another and more direct route to Chicago was obtained within the year through the lease of the Pittsburgh, Fort Wayne, and Chicago; and in 1872 a second route to St. Louis was acquired through the lease of the St. Louis, Vandalia, and Terre Haute by the Terre Haute and Indianapolis, in which the Pennsylvania had a half interest. In 1869, also, Cornelius Vanderbilt united the several lines connecting Buffalo with Chicago in the Lake Shore and Michigan Southern railroad, and consolidated the New York Central with the Hudson River railroad, thus establishing under his control, but under two separate organizations, a through route from New York to Chicago. The Baltimore and Ohio in 1866 leased the Central Ohio, and in 1869, the Sandusky, Mansfield, and Newark, and constructed the Baltimore, Pittsburgh, and Chicago extension through to Chicago by 1874. The Erie took over the Atlantic and Great Western under various leases between 1868 and 1874, thus extending its control as far

6 Annual report, 1871.

west as Dayton, but it did not secure an independent entrance into Chicago until 1883, when the Chicago and Atlantic was opened.

On a smaller scale similar changes were effected throughout the country, and systems were built up by a process of amalgamation of branch lines and extensions. For while the movement had been inaugurated with a view to facilitating transportation, the systems thus created soon found a much stronger motive to consolidation in the suppression of competition. Notwithstanding statutory prohibitions, the consolidation of competing railroads, whether parallel or otherwise, has gone on, in some cases by the aid of devices to evade the law, in others by virtue of special legislative permission. The New York, New Haven, and Hartford may be mentioned as a system which has been built up through the consolidation of lines many of which were natural competitors. The New York Central in 1885 found it necessary to get control of the West Shore and thus remove a competitor which paralleled its main line; and the Lake Shore, for the same reason, in 1887 took over the New York, Chicago, and St. Louis, which paralleled its line throughout its entire length.

Effect of Sherman Anti-trust Act.—The interstate commerce act of 1887 which prohibited "pooling," or the apportionment of competitive business or the proceeds thereof, had no marked effect upon the progress of consolidation, for the traffic associations which were immediately organized to insure the maintenance of rates made this prohibition ineffective. But in 1897 the United States supreme court decided in the Trans-Missouri freight association case[7] that whether reasonable or not, such agreements were in violation of the so-called "Sherman anti-trust act," which was passed by congress in 1890 in an attempt "to protect trade and commerce against unlawful

[7] 166 U. S., 290.

restraints and monopolies,"[8] and without thought of its possible application to railroads. This judgment was reaffirmed in 1898 in the joint traffic association case, and the constitutionality of the act itself was established.[9]

Community of Interest.—These decisions made necessary the devising of a method by means of which the stability of rates might be maintained without doing violence to the law. To this end the idea of a "community of interest" was proposed in 1899 by President Cassatt of the Pennsylvania, and put in practice after it had been approved by the Vanderbilt interests. This involved the ownership of shares of rival lines in sufficient amounts to obtain representation upon their boards of directors, and so maintain harmony of policy among the various interests. With this in view, the New York Central and the Cleveland, Cincinnati, Chicago, and St. Louis in 1900 made large purchases of the shares of the Chesapeake and Ohio, which had long been a disturber of rate schedules. The Pennsylvania, together with the Northern Central, also bought heavily of these shares. In the aggregate the Vanderbilt-Pennsylvania holdings amounted to less than a majority, but they were sufficient to elect two-thirds of the directors. The Pennsylvania, itself and through the subsidiary Pennsylvania company, the Northern Central, and the Philadelphia, Baltimore, and Washington, in the same manner obtained practical working control of the other important soft coal roads—the Baltimore and Ohio, and the Norfolk and Western. By this means, such relations were established with these properties as in a measure to put an end to the practice of rate-cutting. The result was therefore the same as had been formerly attained through traffic associations, but it was now brought about without the necessity for agreements. This process

[8] Stat. at large, XXVI, 209.

[9] 171 U. S., 505. But see Standard Oil v. United States, 221 U. S., 1. (1910.)

has gone on continuously until practically all the railroads in what is known as "trunk line" territory have been affiliated through the interchange of directors. Thus the New York Central is represented upon the directorates of the Erie, the Delaware, Lackawanna, and Western, the Delaware and Hudson, the New York, Ontario, and Western, the New York, New Haven, and Hartford, the Lehigh Valley, and the Reading. Through the Lake Shore it holds joint control with the Baltimore and Ohio of the Reading, which in turn controls the Central of New Jersey. The Vanderbilt interest has long been dominant in the Chicago and North Western, and in New England it has not only the lease of the Boston and Albany, but through the American Express company it has some voice in the management of the Boston and Maine. The Union Pacific is the center of another important community of interest. Four Union Pacific directors are also members of the board of the Chicago and North Western, and two are in the Chicago, Milwaukee, and St. Paul. In 1905 two Union Pacific representatives were elected to the directorate of the Atchison. For a short time prior to 1905, E. H. Harriman was a director of the Denver and Rio Grande and George J. Gould was a director of the Union Pacific; but this arrangement was abruptly ended when the Gould interest began the construction of an independent outlet to the Pacific. This will serve to illustrate the limitations of community of interest. Moreover, with the adoption of this principle, it appears that the practice of transacting all important business through an executive committee became more general, and to this committee were appointed few if any "community of interest directors."

The Seven Great Financial Interests.—By aid of such methods, supplementing the actual consolidation which has been going on all the time, most of the railroad mileage of

the country has been brought into the control, but not the ownership, of seven great financial interests represented by J. P. Morgan, J. J. Hill, Jacob Schiff, W. K. Vanderbilt, George J. Gould, W. H. and J. H. Moore, and the impersonal Pennsylvania railroad, the largest shareholder of which is H. C. Frick. Behind Vanderbilt are J. P. Morgan and company, and the First National bank of New York, which is affiliated with the house of Morgan; and the same institutions, together with the Barings, are identified with the Hill enterprises. With Schiff are Kuhn, Loeb, and company, representing strong financial interests in Germany, and the National City bank of New York, dominated by Standard Oil interests; and with the Moores are the First National bank, and Speyer and company, closely affiliated with great banking houses in England and Germany. The Goulds have been without important banking affiliations; but in 1908 relations were established with Kuhn, Loeb, and company. The Kuhn, Loeb influence has since become strong enough to threaten to force the Gould interest from its dominant position. This banking house has also a large minority interest in the Rock Island. There is much Rockefeller capital represented in the Missouri Pacific and the Denver and Rio Grande. It cannot be said, however, that the Standard Oil capitalists are identified with any single railroad interest. Undoubtedly their closest affiliation is with the Union Pacific interests, but the Rockefellers are heavily interested in the Chicago, Milwaukee, and St. Paul, which is an independent property; and upon the board of the New York Central are James Stillman and William Rockefeller, while William Rockefeller and C. M. Pratt are directors of the New York, New Haven, and Hartford, control of which is widely scattered.[10]

[10] This subject is also discussed in Keys, "Overlords of Railroad

Several attempts have been made to present in tabular form statements showing the concentration of railroad control, and at the same time to group the lines tributary to a single interest. The problem is complicated by cases of joint control, and of personal as distinguished from corporate control, and also by the uncertainty as to what is required to constitute control.[11] Furthermore, changes

Traffic," *World's Work*, XIII, 8437-45, and "The Shifting Railroad Control," *Ibid.*, XX, 13045-56; Edwards, "Men Behind the Railroads," *Booklovers' Mag.*, I, 335-42; and Tittman, "Masters of Our Railways," *National Mag.*, XXII, 65-82.

[11] According to the interstate commerce commission "Control of or over a corporation means ability to determine the action of that corporation." It recognizes the distinction between personal and corporate control, and classifies the latter as follows:

"(a) Right to possess all the property of the corporation, except its instrumentalities of organization.

"(b) Right to possess all the property of the corporation except its instrumentalities of organization, its money, and its choses in action.

"(c) Right to possess such portion of the tangible property of the corporation as is capable of being employed in discharging the duties of a common carrier. The principal form of control contemplated under this class, as well as under class (b), is the control effected through lease, class (b) differing from class (c) only in the extent of the property and interests covered by the contract. It has been urged by many of the carriers that a lease of the tangible property of a corporation does not constitute control of the corporation; that it merely gives possession of certain physical property and in no way interferes in the management of the corporation itself. This contention has some merit; but . . . the provisions of lease contracts vary . . . widely in the extent to which they allow participation in the affairs of the lessor corporation, and . . . even the most simple forms of lease agreement are likely to bring about, either directly or indirectly, a very considerable degree of control.

"(d) Right to exercise the major part of the voting power attached to the shares of stock and other securities of the corporation.

"(e) Right to name the major part of the board of directors of the corporation, whether by virtue of voting trust agreement or by virtue of title to securities or otherwise.

"(f) Right to foreclose a first lien upon all the property of the corporation.

"(g) Right to foreclose a first lien upon a major part of the property of the corporation.

"Forms (f) and (g) constitute control . . . only in case the

of relationship are constantly occurring, so the result is always of uncertain and transient value.

Community of interest, involving as it does the interchange of directors, would, if logically carried out, result in an arrangement whereby each railroad would have a representative upon the directorate of every other railroad which might compete with it. This has not been done, but what has been accomplished is to group the railroad properties of the country so that certain interests have been allowed by the logic of circumstance to acquire a dominant position over contiguous lines in a given roughly defined territory. Thus the Pennsylvania-Vanderbilt interest dominates the trunk lines. In the South the Morgan interest, with the Southern and the Mobile and Ohio, and the Walters-Jenkins interest, with the Atlantic Coast Line, the Louisville and Nashville, and the Nashville, Chattanooga, and St. Louis, are able to control the situation. Jointly, they control the Chicago, Indianapolis, and Louisville, and so have an outlet to Chicago. The Goulds largely control the Southwestern territory; and in the Northwest the Hill-Morgan interest is dominant. The Union Pacific interest controls transportation matters affecting the Pacific Coast south of Puget Sound. But no sharp line can be drawn between these groups, for there is always a tendency toward the extension of control. E. H. Harriman reached out for a terminal at Seattle, and acquired working control of the Illinois Central and the Central of Georgia, thus breaking into two widely

securities which constitute the lien have matured, or the interest upon such securities has been defaulted, and the right to foreclose such lien has not yet been exercised.

"(h) Right to determine the action of the corporation in a specific respect or respects.

"This last class is intended to cover any peculiar forms of control not included in the other classes. Under this class would fall control through advances for construction purposes . . ." "Intercorporate relationships of railways," 15-6.

separated groups, and establishing a through line by a roundabout route between Seattle, San Francisco, and Savannah. And the Goulds entered Pittsburgh with the Wabash, and took over the Western Maryland in an unsuccessful attempt to extend to the Atlantic. They also invaded San Francisco with the Western Pacific. The Chicago, Milwaukee, and St. Paul, long a "granger" road, has extended its activities and entered the Hill territory and established a terminal on Puget Sound. The Burlington has also extended the Hill influence to the Gulf coast through the purchase of the Colorado Southern. The Rock Island, another "granger" line originally, has within recent years expanded into a great system disputing with the Gould lines the mastery of the Southwest. A still more recent creation is the "Hawley system," comprising the Chesapeake and Ohio, the Hocking Valley, the Chicago, Cincinnati, and Louisville, the Toledo, St. Louis, and Western, the Chicago and Alton, the Minneapolis and St. Louis, the Iowa Central, and the Missouri, Kansas, and Texas. With these lines is affiliated B. F. Yoakum and the St. Louis and San Francisco and the Chicago and Eastern Illinois.

Huntington's Plan for a Single Company.—Collis P. Huntington possessed advanced ideas upon the subject of consolidation. While testifying before the Pacific railway commission in 1887, he said: "It has been my view for a good many years that there ought not to be more than three or four transportation companies in the United States. . . . In fact, it would be better, I think, if there was but one. . . . It would serve the people a great deal better, and do business cheaper."[12] Later he was careful to explain that he did not "mean a trust, or anything like that, but a concentration of ownership of

[12] Testimony taken by the U. S. Pacific railway commission, I, 40.

railroad properties."[13] Writing at length upon this subject in 1891, he said:

> I am satisfied that the best results will not be reached until substantially all the transportation business of this country is done by one company. . . . What is wanted is not more than two or three—and one would be better—great carrying companies. . . . With the best talent in the country to manage and control such an organization, many millions could be saved to those who use the railroads of the country, and millions also to those who own them over what is now being received by the fragmentary, badly-equipped, and inefficiently-managed roads that, with but few exceptions now exist.[14]

This has been often quoted, and not infrequently distorted into a positive prediction; but accepting it as such, it is in line with a tendency which has long been operative, and at no period to such an extent as in the last decade.

Progress of Consolidation in New England.—The railroad situation in New England, now and in the early seventies is worthy of comparative study in this connection, as it affords an illustration of the extent to which the process of centralization has been carried in that section, and also an indication of a like change which may be expected to take place throughout the country. In 1873 there were sixteen independent operating companies in New England which controlled a hundred miles each. They ranked as follows:

	Miles
Central Vermont (Omitting 159 in N. Y. and 69 in Canada)	548
Maine Central	357
Boston and Albany (Omitting 56 in N. Y.)	212
Eastern	266

[13] *Railway and Corp. Law Jour.*, IX, 21.

[14] Huntington, "Plea for Railway Consolidation," *North Amer. Rev.*, CLIII, 277-9; see also Lewis, "National Consolidation of the Railways of the U. S." (1893.)

Old Colony	245
New York and New England	205
European and North American (Omitting 88 in Canada)	114
Boston and Maine	189
Atlantic and St. Lawrence (Grand Trunk of Canada, lessee)	149
Boston, Concord, and Montreal	145
Connecticut and Passumpsic Rivers (Omitting 33 in Canada)	110
New York, New Haven, and Hartford	140
Hartford, Providence, and Fishkill	129
Housatonic	128
Concord	112
New Haven and Northampton	109
Total	3158

At that time there were in New England 5088 miles of railroad; so these sixteen companies operated sixty-two per cent. of the total. The total mileage has since increased to about 7800, of which the Boston and Maine and the New York, New Haven, and Hartford together operate or control 5900 miles, or seventy-five per cent. The Central Vermont and the Atlantic and St. Lawrence are controlled by the Grand Trunk of Canada. The line of the Canadian Pacific extends across the northern extremity of Maine; and the Bangor and Aroostook retains its independence. For some years the New York Central owned a majority interest in the Rutland. It also controlled the Boston and Albany under a lease. The New York, New Haven, and Hartford in 1911 bought half of the New York Central's shares in the Rutland, and assumed half the burden of the Boston and Albany lease. All other railroads of any importance in these six states

are directly controlled by either the Boston and Maine, or the New York, New Haven, and Hartford, which in turn controls the Boston and Maine. The Boston and Maine system now represents 126 original railroad corporations; the New Haven, 130. Not only that, but the New Haven system controls practically all the local and interurban traction systems in Rhode Island and Connecticut, and nine steamship lines between various New England ports and New York, with a half interest in another line operating between Boston and Savannah and intermediate ports. The Boston and Maine owns or controls forty-five miles of electric lines in New Hampshire, and it has made several unsuccessful attempts to obtain legislative permission to acquire electric railroad properties in Massachusetts.

Similar Tendency Throughout the Country.—Until after the Civil war no railroad attained the length of a thousand miles. The longest road in the fifties was the Illinois Central, with something over 700 miles. In 1867 the Chicago and North Western passed the thousand mark. Two years later it was operating 1257 miles; the Illinois Central, 966; the Milwaukee and St. Paul, 938; the Erie, 774; and the New York Central, 692. With the consolidations of that year, the Pennsylvania increased its mileage to 3261, the Erie to 1412, the Chicago and North Western to 1282, and the Milwaukee and St. Paul to 1119. These four roads, each of which in 1870 had a mileage in excess of 1000, constituted about fifteen per cent. of the mileage of the whole country. The interstate commerce commission in its report on the statistics of railways for 1906 pointed out the fact that fifty companies operating a thousand or more miles controlled sixty-five per cent. of the total railroad mileage.

Three large interests are already in control of over 20,000 miles each, and three others dominate systems of over

10,000 miles. The Union Pacific, itself operating 6000 miles, controls the Southern Pacific, the San Pedro, Los Angeles, and Salt Lake, the Illinois Central, the Central of Georgia, and other lines—a system aggregating over 25,000 miles. The Union Pacific interest is also the holder of large shares in the Atchison, the Baltimore and Ohio, the Erie, the Chicago, Milwaukee, and St. Paul, the Chicago and North Western, and the New York Central. The New York Central system comprises 13,000 miles, and the Chicago and North Western, 9500 miles. Altogether, the Vanderbilts dominate 23,000 miles. The Great Northern, the Northern Pacific, the Chicago, Burlington, and Quincy, and the Colorado and Southern, comprising the Hill group, control an aggregate mileage of nearly 25,000. The Gould system comprises 19,000 miles. Owning only about 500 miles in fee, the Pennsylvania operates about 4000, and controls a system of 11,000 miles, besides having an active voice in the management of several properties which it does not control. In the South the Atlantic Coast Line system aggregates 11,000 miles, and the Southern about 9500 miles.

Motives of Consolidation.—Railroad consolidation has been undertaken from various motives; to facilitate communication, to prevent or to remove competition, to profit from the sale of new securities, and to simplify organization. While the object of the earliest combinations was to promote efficiency of operation, it soon developed into the desire to develop and retain new business. This necessitated the extension of control over through lines to strategic points; for without the advantage of situation a company would be unable to deal favorably with rival carriers in the matter of fixing and maintaining rates, or to protect itself in the event of rate wars. The Southern Pacific profited in this respect from its acquisition of Morgan's Louisiana and Texas Railroad and

Steamship line; for possessing the only through route under a single management from New York to San Francisco, it was for years able to dominate the transcontinental rate situation. The end frequently sought is an independent entrance into a large city. Thus it was for its valuable terminal properties that the New York and Harlem was taken over by the New York Central in 1873. Instances such as this could be cited at length. The Pennsylvania in 1871 leased the United Railroads of New Jersey on terms which the directors admitted were "onerous," in order to obtain a direct route between Philadelphia and New York. For the same reason the Delaware, Lackawanna, and Western in 1868 leased the Morris and Essex, running into Hoboken; and the Reading in 1901 acquired control of the Central of New Jersey, with valuable terminals in Jersey City. To reach Chicago the Northern Pacific, under the Villard régime, leased the Wisconsin Central; and with the same object in view the Northern Pacific and the Great Northern in 1901 jointly acquired control of the Chicago, Burlington, and Quincy. The Atchison took over the San Francisco and San Joaquin Valley in 1899 for its terminal properties on San Francisco bay. For a similar reason the Goulds in 1902 purchased control of the Western Maryland, with valuable harbor facilities at Baltimore. It should be understood that not all the lines acquired for this reason have been comparatively small. The Burlington has a greater mileage than either the Great Northern or the Northern Pacific, and nearly as much as both combined. The Union Pacific, operating 5000 miles, in order to acquire an outlet to San Francisco by means of the Central Pacific, in 1901 purchased control of the entire Southern Pacific system of over 8000 miles. With the development of a science of railroad economics, administrative efficiency no longer serves as a motive of consolidation. Furthermore, it is

pointed out by Doctor W. Z. Ripley that since about 1890 the tendency has been toward operation in smaller divisions with the view to higher efficiency; also that with the single exception of the Harriman lines, none of the recent combinations have attempted to interfere with the traffic organizations of constituent lines.[15]

Restraint of competition was early sought as an object of consolidation. This at first took the form of extending accommodations to connecting lines in order to remove the inducements to the construction of rival roads. The next step was the elimination of competition in the same territory. It was with this purpose in view that Cornelius Vanderbilt in 1867 made his unsuccessful attempt to get control of the Erie, and subsequently acquired both the West Shore and the "Nickle Plate." The New Jersey railroad, operating between Jersey City and New Brunswick in competition with the Camden and Amboy, was in 1867 taken over as a constituent in the United Railroads of New Jersey. The merger of the Galena and Chicago Union and the Chicago and Milwaukee in the Chicago and North Western in 1865 was undertaken for the purpose of eliminating competition. In 1895 the New York, New Haven, and Hartford took advantage of the embarrassment of its rival, the New York and New England, and purchased control of that company. The Union Pacific in 1903 acquired a dominant interest in the San Pedro, Los Angeles, and Salt Lake to prevent the invasion of a territory which it regarded as peculiarly its own.

Speculative Gains.—Those forms of consolidation which involve the issue of new securities afford an opportunity for inflation which has been seldom overlooked. This adds a speculative motive to consolidation, but it is often impossible to determine the importance of this motive even in a particular case. The New York Central consolida-

15 Report of the industrial commission, XIX, 309, 328.

tion of 1853 resulted in a large issue of inflated shares, but however much the prospect of speculative gain may have aided the work of the promoters in bringing the various interested parties into the agreement, it is certain that the change was effected for commercial and not financial reasons. The closing years of the nineties were remarkable for the rapid progress of consolidation of industrial corporations, and it was only natural that after the supreme court had fastened upon the railroads the burden of the Sherman anti-trust act, those whose training had fitted them for the unloading of securities upon the public should turn their attention to railroad consolidation. Thus the Moore brothers, with their associates in the promotion of the American Tin Plate company and other great industrial combinations, obtained control of the Chicago, Rock Island, and Pacific in 1901, and built up the great Rock Island system in accordance with a plan whereby the public furnished the money while they entrenched themselves in a position where their control is practically secure from attack. Obviously, this was a case where the motive was largely speculative.[16]

Forms of Consolidation.—The earliest consolidations took the form of direct union or fusion of the share capital, properties, and franchises of two or more railroads in a single corporation. This plan was followed at the organization of the New York Central, when each of the constituent companies gave up corporate identity, and their shareholders exchanged their certificates for shares in the consolidated company. Other instances which may be cited are: the union of the Boston and Worcester and the Western to form the Boston and Albany, and of the New York Central with the Hudson River to form the New York Central and Hudson River railroad. A modi-

[16] See Keys, "The Newest Railroad Power," *World's Work*, X, 6302-13.

fication of this method is the merger, or the absorption of one or more corporations by another which retains its corporate existence unaltered save through modifications ordered in the enabling act. Thus the Galena and Chicago Union took over the Mississippi and Rock River Junction railroad in 1885, and the shares of the two corporations were "blended into one capital stock" in the name of the Galena and Chicago Union. Similarly, the New York Central absorbed the Buffalo and Niagara Falls, the Niagara Falls and Lewiston, and the Rochester and Lake Ontario in 1855 by the conversion of the shares of these companies into shares of the New York Central. The Kansas Pacific and the Denver Pacific were merged in the Union Pacific in 1880. Of these two methods, the direct union may be said to have almost gone out of use, but the merger is still employed, usually in cases where absolute ownership of a subsidiary line has been obtained through the gradual acquisition of its entire share capital.

Conveyance.—Sales of property by one railroad to another seldom takes place. In 1902, however, the Illinois Central purchased the Cecilia branch in Kentucky from the Louisville and Nashville. On the other hand, sales of railroad property under foreclosure have been only too common. A large part of the mileage of some systems, notably the Southern, was acquired through this means. The Pennsylvania in 1867 thus acquired title to the Pittsburgh and Steubenville. In 1879 the Chicago and Alton purchased the property of the Chicago and Illinois River, and in 1898 the Illinois Central succeeded to the ownership of the bankrupt Chesapeake and Ohio Southwestern.

Share Ownership.—A railroad may hold shares either for purposes of investment or to secure control of subsidiary properties. In the former case there is always

opportunity for speculation on the part of directors, and the possibility that shares purchased "for income" may so far decline as to represent a loss to the company. The losses in values sustained by the Union Pacific during 1907 upon its large holdings of shares represented over twenty per cent. upon their cost. In 1899, according to the annual report of the interstate commerce commission on the statistics of railways, the railroads of the United States held $1,207,498,299 out of the total of $5,515,011,726 of railroad share capital outstanding. By 1909, according to the same authority, their holdings had increased to $3,573,566,572, while the total share capital outstanding had risen to $7,686,278,545. Until 1906 the railroad bonds held by railroad companies, as shown by these reports, had never reached ten per cent. of the total. In that year the amount was $641,305,030. This is evidence that whatever the practice of particular companies, most railroads hold securities not for income but for control. Additional light was thrown upon this point by the special report of the interstate commerce commission on intercorporate relationships of railways in the United States as of June 30, 1906, published in 1908. This report was prepared from data which it was impossible to obtain before the enactment of the Hepburn law. It showed that out of a total of $8,884,234,925 of railroad share capital outstanding, the railroad companies themselves owned $4,114,851,-990, or forty-six per cent. Of the funded debt, they held but $1,440,360,507 out of $9,342,961,476, or fifteen per cent. Of these amounts only $440,519,546 of share capital and $38,990,634 of funded debt represented securities of railroads outside the system of which the owner corporation was a part, and the statistician of the commission observed that "The striking preponderance of stock holdings, which amount to 92 per cent. of the total holdings, would lead to the conclusion that pure investment is not the purpose pri-

marily held in mind by railway corporations in purchasing securities outside their own systems." [17]

Control by share ownership is the method most commonly employed to hold together the different parts of a system. The end may be obtained through individual or family ownership of a dominating interest in the several corporations, as in the case of the New York Central, the Lake Shore and Michigan Southern, and the Michigan Central by the Vanderbilts, prior to 1898; and the Missouri Pacific and the International and Great Northern, to-day, by the Goulds. Or it may be brought about through joint ownership, as in the case of the Colorado Midland by the Denver and Rio Grande and the Colorado and Southern. But these are among the exceptional cases.

Acquisition of Shares.—Shares for control may be obtained in various ways. They may be purchased upon the market or directly from individual shareholders, or they may be taken over in accordance with a formal agreement providing for the exchange of securities. Where only a small amount is outstanding, they may be purchased for cash without inconvenience, but it is only in exceptional cases that a railroad has a surplus sufficient to allow much discretion in the matter of payment. Even the Union Pacific with its enormous surplus, after having made large purchases of shares in 1906, was compelled to seek additional funds through an issue of bonds in 1908. The Chicago and Alton acquired full control of the Alton and St. Louis in 1867 in accordance with a plan adopted several years before by which a cash fund was set aside each year to provide for the purchase of shares as opportunity offered. Whenever there is occasion for haste or stealth in obtaining control, the use of cash is imperative. The directors of the Chicago and North Western, upon plea of necessity, purchased control of the Chicago and Milwau-

[17] "Intercorporate Relationships of Railways," 36-7, 45.

kee in 1865 without delaying to seek authority from the shareholders. The Baltimore and Ohio, and the Pennsylvania in 1881, engaged in a contest for the control of the Philadelphia, Wilmington, and Baltimore, which was won by the Pennsylvania, but at a cost of about $18,000,000 in cash. Part of this sum was subsequently made up by means of a bond issue, and part through the sale of new shares. When control is acquired by means of an exchange of shares, an increase of capitalization is necessary. In 1899 the share capital of the Union Pacific was increased $27,000,000 to provide for an exchange with the shareholders of the Oregon Short Line; and the Missouri, Kansas, and Texas issued $2,500,000 of new shares, the same year, to exchange for shares of the Kansas City and Pacific. The Denver and Rio Grande, after having reserved large amounts of its own share capital to exchange for control of the Rio Grande Western, effected its purpose in 1901, but in addition to the shares, it turned over part payment in cash and part in consolidated bonds.

Collateral Trust Notes as Aids to Consolidation.—Shares purchased for control must be retained, but they may be hypothecated or pledged as collateral for loans, or they may be placed in trust as collateral security for an issue of bonds. By this means control is cheapened, for the greater part of the original outlay is restored to the working capital of the company. The collateral trust bond is based upon the same principle as the ordinary secured note. Its use is not new in railroad finance, but in the period of consolidation which began about 1898 and ended in 1907 it was employed to such an extent that it came to be regarded almost as one of the indispensable instruments of railroad consolidation.[18]

It is the usual practice to issue these bonds directly in

[18] See Mitchell, "The Collateral Trust Mortgage in Railway Finance," *Quar. Jour. of Econ.*, XX, 443-54.

exchange for the shares upon which they are secured. This was done in the case of the purchase of the Lake Shore and Michigan Southern and the Michigan Central by the New York Central in 1898; of the Chicago, Burlington, and Quincy by the Great Northern and the Northern Pacific, and the Central of New Jersey by the Reading in 1901; and also of the Chicago, Indianapolis, and Louisville by the Louisville and Nashville and the Southern in 1902. The Southern, however, issued guaranteed shares in 1901 in exchange for shares of the Mobile and Ohio, which were deposited as collateral for bonds which were exchanged for bonds of the Mobile and Ohio. And the Union Pacific, preparatory to taking over working control of the Southern Pacific the same year, sold to its shareholders ten-year first mortgage and collateral trust convertible bonds, and with the funds thus obtained purchased the shares, partly upon the market, but mostly from Kuhn, Loeb, and company, who had acquired the shares formerly held by the Huntington, Stanford, Crocker, and Searles families. The Atlantic Coast Line in 1902 took over the control of the Louisville and Nashville from J. P. Morgan and company, who had purchased the shares which had been acquired by John W. Gates and associates upon the open market. In return it gave seventy per cent. of the purchase price in collateral trust bonds secured by Louisville and Nashville shares, five per cent. in shares, and the balance in cash, to obtain which new shares were issued. The Rock Island system has been built up mainly through the use of the collateral trust bond. In 1901, soon after coming into control of the Chicago, Rock Island, and Pacific railway company, the Moore brothers acquired the Choctaw, Oklahoma, and Gulf by exchanging collateral trust bonds for its shares. In 1902 they organized the Chicago, Rock Island, and Pacific *railroad* company to take over the control of the Chicago,

Rock Island, and Pacific *railway* company, and to acquire the shares which were still in the hands of the public. Their purpose was accomplished by means of a complicated plan whereby each shareholder of the old company was offered in exchange for his shares, their par in collateral trust bonds with a bonus to the same amount in shares. These shares did not represent ownership in the new *railroad* company, but in the Rock Island company, which had been organized for the express purpose of holding all of its shares. In 1905 the St. Louis and San Francisco acquired a majority interest in the Chicago and Eastern Illinois, giving in exchange for the shares, interest-bearing stock trust certificates, which are similar in character to collateral trust bonds.

Acquisition of control is simplified in cases where a large block of shares may be purchased from a single holder. The Richmond and Danville obtained control of the Northeastern of Georgia in 1881 through a purchase of the majority interest held by the city of Athens; and the Gould entrance into Baltimore in 1902 was effected when the control of the Western Maryland was purchased from that city. In 1883 the Chicago, Burlington, and Quincy obtained from Jay Gould a controlling interest in the Hannibal and St. Joseph; and in 1889 a syndicate representing the Cleveland, Cincinnati, Chicago, and St. Louis purchased control of the Chesapeake and Ohio from Collis P. Huntington.

Minority or "Working" Control.—It is not necessary to own a majority of the share capital of a company to control its management. A concentrated minority interest may exercise practical control by virtue of proxies obtained from shareholders in sympathy with its policies, or it may succeed in exerting a dominant influence because some of the shareholders neglect both to vote and to give proxies. It is only in rare instances that the shares repre-

sented at a shareholders' meeting amount to more than three-fourths of the total outstanding. Many of the proxies voted at these meetings represent shareholders who have signed without investigation the form sent them by those in charge of the management of the company. The Pennsylvania is able to control the Norfolk and Western by virtue of ownership of less than forty per cent. of the share capital of that company. The combined holdings of the Lake Shore and Michigan Southern and the Baltimore and Ohio in the Reading amounts to somewhat over forty per cent., but it is sufficient to insure control. The Chicago and North Western owns $14,700,000 of the share capital of the Chicago, Minneapolis, St. Paul, and Omaha, with a capital of $29,818,865 outstanding, but with the holdings of a single director, F. W. Vanderbilt, who owns $1,500,000, its control is absolute. Up to 1907 the Lake Shore and Michigan Southern controlled the Cleveland, Cincinnati, Chicago, and St. Louis in a similar manner, but it now holds a majority of the share capital in its corporate capacity. The Goulds have control over the Missouri Pacific and the Denver and Rio Grande, but only because of the support of the Rockefeller holdings. The Gould interest in the Missouri Pacific amounts to only $20,215,000 out of $77,407,860 outstanding. In 1905 it was brought out in the Gould-Ramsay contest for the control of the Wabash that the Goulds, owning only about a third of the shares, were able to attract proxies sufficient to retain their mastery over the affairs of the company. The Union Pacific controls the Southern Pacific with outstanding capital of $272,672,205 through the ownership of $126,610,000, or less than half its share capital. In the course of his testimony before the interstate commerce commission in 1907, Edward H. Harriman said that for all practical purposes thirty per cent. of the shares of a railroad held as a unit was sufficient to insure control.

Minority Control and Stock Market "Raids."—The history of railroad finance is replete with episodes which show that while a minority interest is ordinarily sufficient to give working control, there is always a possibility that a rival interest may be built up to contest for that control. Cornelius Vanderbilt in this manner bought his way into the New York Central in 1867, and his son, W. H. Vanderbilt, in 1879 acquired the Michigan Central through purchases in the open market. John W. Gates in 1902 obtained a majority interest in the Louisville and Nashville by one of the most notable coups ever carried out on the stock exchange. In the same manner the Moores captured the Chicago, Rock Island, and Pacific in 1901, and nearly succeeded in their attempt to acquire the Chicago and North Western the following year. With the aid of Edwin Hawley, they were able in 1904 to wrest from Harriman the control of the Chicago and Alton by building up a rival minority interest which was eventually increased to a majority. This road had already been the subject of a similar contest in 1899, when a syndicate composed of E. H. Harriman, George J. Gould, James Stillman, of the National City bank, and Mortimer L. Schiff, of Kuhn, Loeb, and company, obtained enough shares to enable them to oust the Blackstone management. The Kansas City Southern, for several years a Harriman property, was taken over in 1905 by Herman Sielcken, who had acquired in this country and in Holland sufficient certificates to accomplish his purpose at the expiration of the voting trust.

Tendency Toward Absolute Ownership.—There is a growing tendency in the direction of acquiring absolute ownership of subsidiary companies. When all the shares of such a company are acquired they may be cancelled, or if it is desired to maintain its corporate organization they may be kept in the treasury or deposited in trust. The

New York Central policy differs from that of the Pennsylvania in this respect. It has held all of the share capital of the West Shore since the organization of that company in 1885, but it has operated it as a separate property. The Pennsylvania having obtained absolute control of the Philadelphia and Erie, terminated the existence of that corporation in 1907 and took title to its property. Such a change is generally thought to be in the interest of economy of operation. The Chicago, Milwaukee, and St. Paul has always pursued this policy. Thus in 1893 it obtained a deed to the property of the Milwaukee and Northern, absolute ownership of which it had acquired in 1891. The Delaware and Hudson in 1908 purchased the last outstanding share of the New York and Canada, in order that it might do away with the expense of maintaining the organization of that company. In the same way the Southern Pacific, the Chicago, Burlington, and Quincy, the Chicago and North Western, the Atchison, the Denver and Rio Grande, the Missouri Pacific, and the Erie have taken steps to simplify the relationship of the properties under their control. It is the practice of the New York, New Haven, and Hartford in thus merging subsidiary lines to issue bonds for betterments in the name of the old company prior to ending its corporate identity. In this way the bonds are given the stability and the security attaching to a divisional lien. The growth of the New Haven as a compact system has been encouraged by the Connecticut statute which authorizes the condemnation by a railroad company of the outstanding shares of a corporation in which it has a three-fourths interest.[19] This law was sustained in 1907 by the United States supreme court.[20]

The Lease as a Means of Consolidation.—The purpose of actual consolidation may be effected by means of a lease,

19 L. 1895, c. 232; Gen. stat., 1902, §3964.
20 Offield v. N. Y., N. H., and H., 203 U. S., 372.

or the transfer for stated payments of the property and franchises of one corporation to another for a term of years or in perpetuity. This method has been adopted for a variety of reasons. One of these is the difficulty of reducing to a common basis the securities of the different corporations. Another and more potent reason is popular opposition to actual consolidation, which has been active in such states as Texas and Minnesota. But while independent lines have been taken over in numerous instances under this form of agreement, the lease is most often employed as an administrative device to promote the harmonious operation of the different parts of a system controlled by virtue of share ownership. Thus the New York Central, with absolute ownership of the West Shore, operates that property under a lease for a term of 475 years. Such an arrangement amounts to practical consolidation.

Terms.—The period for which a lease may run varies. The term may be for only a few years; it may extend to the end of the corporate existence of the lessee; or it may be specifically without limit as to time. Leases are frequently executed for ninety-nine years, a practice which according to competent authority, is due to force of tradition reaching back to Roman law, which assumed one hundred years to be the longest term of human life.[21] The lease of a subsidiary corporation is usually for a longer term than is possible to obtain when the lessee is comparatively or wholly independent. But the Pennsylvania, which leased for 999 years the Philadelphia and Erie, the Harrisburg and Lancaster, the Pittsburgh, Fort Wayne, and Chicago, and other controlled lines, also took over the independent United Railroads of New Jersey for the same period.

21 Baldwin, "American Railroad Law," 457.

Long Term Leases as Preliminary to Mergers.—Long term leases are frequently succeeded by mergers, the lessee thereby surrendering corporate identity and terminating the lease, as in the case of the merger of the Philadelphia and Erie in the Pennsylvania in 1907. The Beloit and Madison, which had been held under perpetual lease by the Chicago and North Western, was absorbed in 1871. The Chicago and Alton operates several of its subsidiary lines under leases in perpetuity. In 1879 the Chicago, Milwaukee, and St. Paul came into possession of the entire share capital of the Western Union railroad, in which it had owned a majority interest for ten years. Unable under the laws of Illinois to take over the property by direct conveyance, it executed a lease for a nominal consideration for a term of 999 years.[22]

Rentals.—Lease rentals may be contingent upon earnings, or they may take the form of guaranteed payments of interest and dividends upon the outstanding securities of the lessee. The Chicago, Rock Island, and Pacific leased the Keokuk and Des Moines in 1878 for thirty-five per cent. of gross earnings, and the Des Moines and Fort Dodge in 1888 for a rental of thirty per cent. The rental which the Pennsylvania pays under its lease of the United Railroads of New Jersey is the interest upon the bonds and a ten per cent. dividend upon the share capital. The New York Central guarantees a dividend of eight per cent. upon the shares of the Boston and Albany and interest upon its bonds. The Baltimore and Ohio agreed to pay the Central Ohio a rental of thirty-five per cent. of gross earnings for five years after 1866, and thereafter at the rate of forty per cent. A similar arrangement is in effect between the Cincinnati, New Orleans, and Texas Pacific and

[22] Cary, "Organ. and Hist. of the Chicago, Milwaukee, and St. Paul," 137.

the Cincinnati Southern. But when in 1878 the Atchison leased the Denver and Rio Grande, the agreement provided for a rental beginning at forty-three per cent. of gross earnings, but to be gradually reduced to a minimum of thirty-six per cent.

CHAPTER XVI

CONSOLIDATION (*continued*)

Railroad Trust Proposed.—Charles Fisk Beach, Jr., well known as the author of a number of standard legal treatises, proposed in 1889 the formation of a railroad trust for the operation of all the railroads in a given territory "by means of an association between the share owners of connecting, parallel or competing lines—associations between the railways themselves, or their officials, having proved ineffectual." This suggestion he accompanied with detailed instructions. "The association contemplated must be entirely between the individual stockholders or stock and bond holders," said he, "and not at all between the railway corporations themselves. The corporation must be absolutely independent of the trust, and wholly separate and apart from it." This plan contemplated the division of the country into sections, and the creation in each section of a separate trust.

These several trusts could all be inter-associated and work together to a common end. In each case there might be created a trust board . . . which should act as a committee of the whole in determining the policy of the trust, but to be subdivided into as many sub-committees . . . as there are roads to be operated. . . . A majority at least of the stock of each of the roads should then be conveyed absolutely to the trust, and the title taken in the names of these sub-committees, the stock of each road to be in the name of a different committee, to be registered on the books of the corporation in their individual names, and to be held by them for the purposes declared in the deed of trust. For this stock so conveyed to the trust there shall be issued, as usual, trust certificates. . . . This majority shall elect a board of directors and operate the property. . . . Each road

will thus maintain its corporate organization and carry on its business independently . . . as though there were no trust. Dividends should, in every instance, be declared directly on the stock of each road as earned, and paid over, as usual, directly to each stockholder as the stock books declare. Thus the outstanding stock will receive its dividend directly, and the dividends on the stock included in the trust will be paid into the trust and be re-distributed on the certificates.

In this manner there was to be created "a voluntary unincorporated association between the owners of a majority of the stock of the allied lines," and the inducements to such an organization were declared to be: "economy in the operation of the associated lines; the suppression of the competition of reckless and insolvent rivals, including the prevention of rate wars and rate cutting; the prevention of over-building, involving wholesome restraint upon speculative construction; . . . the protection of each road from the encroachments of its rival; the protection of all the lines in the construction of necessary branches and feeders, and the protection of the public in the construction of new lines; the maintenance of steady rates, leaving the railways to compete in facilities only and not in rates; . . . the protection of the weaker lines, and an arrest of the tendency toward their absorption by the stronger systems, and finally a stay in the progress now certainly making toward governmental interference and operation."[1]

But while this plan was based upon a recognition of the economic truth that the business of a railroad transportation is essentially monopolistic, it was foredoomed to failure, not only because of the unreasoning fear of the public of anything in the guise of a trust, but also because the people and the courts have persisted in regarding unrestrained competition as the sole remedy for all traffic

[1] *Railway and Corp. Law Jour.*, VI, 61-3.

evils. And, as President Hadley has observed in this connection, the year 1889 was "a bad year for trusts."[2] The tendency of judicial decisions since about that time has been decidedly averse to any arrangement constituting a partnership of corporations, upon the ground that it is inconsistent with the scope and purpose of a corporation; that it interferes with the management of a corporation by its own officers; that it impairs the authority of shareholders; and that it is contrary to public policy as involving the delegation of corporate powers and the practical consolidation of corporations in defiance of statutory authority.[3]

Holding Companies.—A most effective agency for bringing about practical consolidation has been found in the holding company—a corporation which holds and deals in the securities of other corporations. Such a company may be a finance company merely, or it may operate the properties which it controls. A railroad company, moreover, by virtue of extensive ownership of securities, may become a holding company in everything but the name. The oldest holding company is also an operating company. This is the Pennsylvania company charted in 1870,[4] to take over the lines of the Pennsylvania system west of Pittsburgh. From the first it has operated the Pittsburgh, Fort Wayne, and Chicago, but the other great subsidiary lines, the Vandalia, and the Pittsburg, Cincinnati, Chicago, and St. Louis are operated by their own organizations. The entire share capital of the Pennsylvania company is held by the Pennsylvania railroad.

The Southern Pacific company, holding fee title to nine miles of railroad, controls through share ownership a system of as many thousand miles. It is a Kentucky corpo-

[2] Hadley, "Prohibition of Railroad Pools," *Quar. Jour. of Econ.*, IV, 168-9.
[3] Noyes, "Intercorporate Relations," §§ 314-5.
[4] L. Pa. 1870, no. 949.

ration, chartered in 1884 [5] to concentrate the ownership of the railroads between San Francisco and New Orleans, and to operate these lines controlled by Collis P. Huntington, Leland Stanford, and Charles Crocker. These three, with Mark Hopkins and E. B. Crocker, had been associated in the construction and management of this great system. E. B. Crocker was the first to die, and his interest was bought by the survivors. In 1874 these men, conscious of approaching age and desirous of husbanding their energies, sold an interest to David D. Colton, who was active in the management until his death in 1878. Meanwhile, Hopkins also had died in 1878, and upon the remarriage of his widow, the control of his interest passed into the hands of Edward F. Searles, who having no taste for railroading executed his proxies in favor of Huntington. Colton's interest was purchased from his widow by the survivors.[6] The question again presented itself, therefore, as to a method by which these men could relieve themselves of their responsibilities and at the same time retain their control. To Huntington came the idea of a holding company to take over their shares in the various properties and issue against them certificates of its own. In order to remove themselves as far as possible from the jurisdiction of courts and legislatures whose attitude was often hostile, it was decided to seek a charter in some state entirely outside the section in which their property was located. His connection with the Chesapeake and Ohio had enabled Huntington to acquire influence in legislative circles in Kentucky, and for that reason the charter was taken out in that state.[7] The new company took over the management of the Southern Pacific system proper through what was known as the "Omnibus" lease in 1885, and also leased the Central Pacific the same year, and the Oregon

[5] L. 1883-4, c. 403. [6] Colton v. Stanford, 82 Cal., 351.

[7] Doyle, "Central Pacific Railroad Debt," 55 Cong. 1 sess., S. rep. V. 1, no. 20, pp. 303-4.

and California in 1887. The "Omnibus" lease was abrogated in 1901, though before that time most of the lines in Texas had been separately operated in conformity with the law of that state. The Southern Pacific railroad company was organized in 1902 to take over the shares of the Southern Pacific railroad companies of California, Arizona, and New Mexico. It is purely a holding company, and the properties under its control are operated under lease by the Southern Pacific company, which holds a large majority of its share capital.

A third holding company, which was also an operating company, was the Wisconsin Central company. This was incorporated under the laws of Wisconsin in 1887 for the purpose of acquiring control of the Wisconsin Central railroad and seven connecting roads, comprising the "Wisconsin Central Associated Lines." It obtained a majority interest in each of these companies, and began operations in 1888, though the separate operation of the Wisconsin Central railroad and its leased line, the Minnesota and Lake Winnebago, was continued. A receiver was appointed for the Wisconsin Central railroad in 1893, and in the reorganization of that property in 1899, the Wisconsin Central company disappeared.

The Great Northern railway company was an operating holding company until 1907. Its forerunner was the Minneapolis and St. Cloud, chartered by the territorial legislature of Minnesota in 1856, and in 1869 authorized to change its corporate name at the discretion of the directors. In 1890 the company under its new name leased for 999 years the St. Paul, Minneapolis, and Manitoba, and acquired in exchange for its own shares the shares held by that company, representing absolute control of the Montana Central, the Wilmar and Sioux Falls, the Duluth, Watertown, and Pacific, and the Eastern of Minnesota. These lines it also leased. Since 1898 practically the entire share

capital of the "Manitoba" company has been acquired by the Great Northern by exchange of shares. Late in 1907 the Great Northern acquired the title to the property of all these companies.

In 1873 the Southern Railway Security company was organized under the charter of the Overland Contract company, granted by the state of Pennsylvania in 1871, and conferring all the powers enjoyed by the Pennsylvania company.[8] To this company the Pennsylvania railroad turned over the controlling interest in the East Tennessee, Virginia, and Georgia, the Memphis and Charleston, and several minor lines between Richmond and Charleston, together with the three-fifths interest in the Richmond and Danville which it had bought from the state of Virginia in 1871. The new company was not a success, and in 1876 it disposed of practically all its holdings except the Richmond and Danville shares, which it finally sold when in 1881 the Scott policy of extension southwards was abandoned. This was a finance company, with no concern in matters of operation.

Upon regaining independence the Richmond and Danville adopted a policy of expansion, but as it was limited by its charter to ownership of shares in connecting lines, an auxiliary organization was necessary for its purpose. This was found in the Richmond and West Point Terminal Railway and Warehouse company, chartered in 1880, and endowed with ample powers.[9] By means of shares purchased in the name of this company, the Richmond and Danville acquired control of a network of railroads in Virginia, Tennessee, North Carolina, and Georgia. In 1884 it obtained an amendment to its charter which made an intermediate company no longer necessary. In 1886, therefore, it purchased from the "Terminal company" the

[8] L. Pa., 1871, no. 395; 1874, appx. 1873, no. 318.
[9] L. Va., 1880, c. 238.

securities of the subsidiary lines, and sold its controlling interest in that company. The lines acquired in this manner were then leased.

The "Terminal" company thus set adrift, turned about and bought control of the Richmond and Danville. By 1889 it had acquired substantially all the shares of this company, and in 1892 when it was taken over by a receiver it controlled besides the Richmond and Danville, the East Tennessee, Virginia, and Georgia, and the Central Railroad and Banking company of Georgia—a system of over 9000 miles, which was operated not by the "Terminal" company, but by the subsidiary companies under their own organizations.

Because the constitution of Georgia prohibited railroad companies from acquiring shares of competing lines, the "Terminal" company in 1888 took over the Central of Georgia through the Georgia company, an intermediate holding company, organized under the general laws of North Carolina in 1887. The shares of the Central of Georgia were placed in trust by the Georgia company with the voting power in the name of the "Terminal" company, and the various companies were also connected through the medium of leases, but the arrangement was in 1892 condemned by the courts.[10]

Henry Villard in 1881 incorporated the Oregon and Transcontinental company under the laws of Oregon. This was a finance company, organized to hold the shares of the Oregon Railway and Navigation company, of which Villard was president, and also the controlling interest in the Northern Pacific, which had been acquired by means of the celebrated "blind pool" of that year. It was through this company that the funds were raised to complete the Northern Pacific, and also to build branch lines

[10] Clarke v. C. R. R. and B. Co., 50 Fed. Rep., 338; Clarke v. R. and W. P. T. R. and W. Co., 62 Fed. Rep., 328.

which the Northern Pacific under its charter had no authority to construct. An attempt was also made to construct the Oregon and California, and in 1883 the unfinished line was leased in perpetuity, but the arrangement was broken off within a year. The Oregon and Transcontinental company, according to Villard himself, was a "grievous disappointment." In the financial difficulties in which the system almost immediately became involved, the control of the Oregon Railway and Navigation company was lost. In 1890 the Oregon and Transcontinental company became the North American company of New Jersey.[11]

The foregoing, with one exception, constituted the important experiments with the holding company prior to 1900. The exception is the Reading company, which grew out of the reorganization of the Philadelphia and Reading railroad in 1896. Under the charter of 1833 the railroad company had enjoyed the right to own shares of industrial corporations, but this privilege, under the constitution of 1873, could not be conferred upon the Philadelphia and Reading railway company, which purchased the property of the old company at foreclosure sale. The reorganizers therefore purchased control of the National company, which had been chartered in 1871 as the Excelsior Enterprise company, and endowed with all the powers conferred upon the Pennsylvania company.[12] To this company they conveyed the entire share capital of the new railway company, and of the Philadelphia and Reading Coal and Iron company. In 1901 the Reading company acquired a controlling interest in the Central of New Jersey.

Railroad Securities Company.—The non-operating holding company was admirably adapted to the purposes of the

[11] Villard, "Memoirs," II, 295-300, 341-4; Smalley, "Hist. of the Northern Pacific," 265-8.

[12] L. Pa., 1871, no. 983.

financial interests which became active in promoting railroad consolidation about the end of the last century. When in 1900 the Atlantic Coast Line railroad was organized through the consolidation of the Atlantic Coast Line railroads of Virginia and South Carolina, the Norfolk and Carolina, and the Wilmington and Weldon, the majority of the shares was taken by the Atlantic Coast Line company, incorporated in Connecticut in 1889. In 1900, also, the American Securities Investment company of New Jersey, which had been dormant since its incorporation in 1896, began active operations as the Railroad Securities company. While empowered to purchase the securities of any railroad, it has confined its attention to Illinois Central, of which it has held 95,000 shares for several years. Its share capital amounts to $8,000,000, of which the Union Pacific holds a large majority. By virtue of these shares, together with the Illinois Central shares owned directly by the Union Pacific and the proxies of friendly interests, the Harriman control of the Illinois Central was established in 1908.

Northern Securities Company.—As early as 1896 an attempt was made to unite the controlling interests in the Great Northern and the Northern Pacific by means of an arrangement whereby the Great Northern was to take one-half of the Northern Pacific shares and to guarantee the bonds of that company. This plan was declared in conflict with the Minnesota law forbidding the consolidation of parallel and competing lines.[13] In 1901 these companies attempted to buy joint control of the Chicago, Milwaukee, and St. Paul, and thus effect an entrance into Chicago. This resulted in failure, but a controlling interest in the Chicago, Burlington, and Quincy was obtained. The Union Pacific, which already held over $8,000,000 of the share capital in this company, sought an

[13] Pearsall v. Great Northern, 161 U. S., 646.

allotment of additional shares, and the refusal of this application led Harriman to attempt to buy control of the Northern Pacific. After a memorable contest, which culminated in the crisis of May 9, 1901, when Northern Pacific common shares were quoted on the stock exchange at $1000, a majority interest was acquired, made up of $37,000,000 common, and $41,000,000 preferred shares. The Hill-Morgan interests, however, held a clear majority of the common shares, and by virtue of this fact could retire the preferred shares on any first of January prior to 1917, thus eliminating over half of Harriman's shares, and effectually barring him from control. But Harriman, by virtue of his majority interest, could control the election of directors at the forthcoming meeting in October, and thus prevent the retirement of his preferred shares. While this might have been made impossible by means of a postponement of the annual meeting until after the close of the year, the conflicting parties soon came together in an agreement by which J. P. Morgan was chosen to select a board of directors for the Northern Pacific which should be representative of all parties in interest.

It was then that the idea of a holding company was proposed. As in the case of the Southern Pacific, the men who had built up the Great Northern felt themselves growing too old for active participation in the management of the company, and various plans had been considered by which they could withdraw without allowing hostile interests to come into control. But the motives for the formation of a holding company were not altogether personal. Says Doctor B. H. Meyer:

> They were personal, in so far as the Securities Company was the outgrowth of a desire on the part of certain men to perpetuate a certain policy. They were economic in that the execution of certain large, almost empire building plans could be promoted, in the estimation of its founders by the Company. The founders of the

Company, through years of effort, had become accustomed to associate their railway properties with a certain economic policy. And thus the personal and economic causes of the organization of the Company practically became merged into one, namely, the desire to insure uninterrupted progress in the building of a great system of transportation.[14]

With the coöperation of the Union Pacific interest, the Northern Securities company was therefore incorporated in New Jersey in 1901 to take over the shares of the Great Northern and the Northern Pacific. This was accomplished, and the shareholders of the two companies disappeared as such, but reappeared as shareholders of the holding company.

The new organization was at once attacked by the state authorities of Minnesota, and soon afterwards by the federal government. On March 14, 1904, the United States supreme court declared the Northern Securities company a combination in restraint of trade within the meaning of the Sherman anti-trust act.[15] The decision in this case was based upon the fact that this company possessed the power to suppress competition between parallel lines. It had no reference to the validity of the holding company as an instrument of corporation finance. Says Doctor Meyer: "From the point of view of railway organization, the case presents little of consequence, except that railway corporate organization, in the process of metamorphosis or evolution, must avoid the technicality of the particular type of holding company which the Northern Securities Company represented. From the point of view of railway regulation and the relations between the general public interests and private railway management, the case has no significance whatsoever."[16]

Rock Island.—A holding company modeled after the

[14] Meyer, "Hist. of the Northern Securities Case," 226.
[15] U. S. v. Northern Securities, 193 U. S., 197.
[16] Meyer, 305.

Northern Securities company incorporated under the laws of New Jersey is the Rock Island company, organized in 1902 by the Moore brothers and their associates to insure centralized control over the operation of the Chicago, Rock Island, and Pacific railway and other lines. This was accomplished through an intermediate holding company, the Chicago, Rock Island, and Pacific railroad company, incorporated the same year under the laws of Iowa, the entire share capital of which is held by the Rock Island company. The Rock Island company has outstanding about $49,000,000 of preferred shares, and $89,000,000 of common shares, and holders of the preferred shares are entitled to elect a majority of the directors—a privilege which may be surrendered only with the consent of two-thirds of those shares. Moreover, the amount of preferred shares may be increased only upon consent of two-thirds of the shares of each issue. Thus the holders of $25,000,000 of the preferred shares are able to dominate the situation; but as the common shares represent only a nominal outlay the fact is without particular significance.

"Queen and Crescent" Group.—An illustration of the complicated relationships which it is possible to establish between railroad companies by means of the holding company is offered by the lines constituting the "Queen and Crescent" route. The Alabama and Great Southern railroad was organized in 1877 as successor to the bankrupt Alabama and Chattanooga, running from Meridian to Chattanooga. Substantially the entire share capital of the new company was immediately taken over by the Alabama Great Southern railway company, an English corporation, registered in 1877. Upon the organization of the Cincinnati, New Orleans, and Texas Pacific in 1881, a majority of its share capital was taken by the Alabama Great Southern railway company. A second English corporation, the Alabama, New Orleans, Texas and Pacific Junc-

tion Railways company was registered in 1881 to provide the capital required to purchase control of railroads which could be advantageously associated with the Alabama Great Southern. It at once acquired control of the Alabama Great Southern itself, and the Vicksburg and Meridian (now Alabama and Vicksburg), and also two unfurnished lines, the New Orleans and Northeastern, opened in 1883, and the Vicksburg, Shreveport, and Pacific, opened in 1884. In 1890 the East Tennessee, Virginia, and Georgia with the coöperation of the Richmond and Danville, acquired a majority of the share capital of the Alabama Great Southern in the interest of the Richmond and West Point Terminal Railway and Warehouse company. The Southern, as successor to the "Terminal" company, by purchase under foreclosure sale of collateral pledged by the East Tennessee, Virginia, and Georgia, and otherwise, acquired a clear majority of the Alabama Great Southern share capital in 1895. This carried with it control of the Cincinnati, New Orleans, and Texas Pacific, and arrangements were at once made whereby the majority interest in that company should be held jointly by the Southern and the Cincinnati, Hamilton, and Dayton. To this end the controlling shares were given over to the Southwestern Construction company, in which the Southern through the Alabama Great Southern and the Cincinnati, Hamilton, and Dayton through the Michigan Securities company held a majority interest. With the addition of the large minority interest held by the Alabama, New Orleans, Texas and Pacific Junction Railways company, control of this company is practically absolute.

Richmond-Washington Company.—Another noteworthy example of the use to which the holding company may be put is the Richmond-Washington company, incorporated in New Jersey in 1901. This company owns all of the share capital of the Washington Southern, and a ma-

jority of the share capital of the Richmond, Fredericksburg, and Potomac, which are operated as a "union" line in the interest of the Pennsylvania, the Baltimore and Ohio, the Atlantic Coast Line, the Southern, the Seaboard Air Line, and the Chesapeake and Ohio, each of which holds one-sixth of the share capital of the Richmond-Washington company.

Railroads as Holding Companies.—Since the administrative reorganization of the Vanderbilt system in 1898, the New York Central has taken advantage of the remarkable earning power of the Lake Shore and Michigan Southern to concentrate in the name of that company the control of its Western lines, thus transforming it into a virtual intermediate holding company. In 1899 this company's holdings of railroad shares amounted to $21,008,750, most of which represented control of the New York, Chicago, and St. Louis, and the Pittsburgh and Lake Erie. In ten years this was increased to $133,081,800, and majority interests acquired in the Cleveland, Cincinnati, Chicago, and St. Louis, the Lake Erie and Western, and the Chicago, Indiana, and Southern, besides important minority interests in the Reading. In a similar manner, the Union Pacific holds in the name of the Oregon Short Line the controlling shares of the Oregon Railroad and Navigation company, the Southern Pacific, and the San Pedro, Los Angeles, and Salt Lake, with large blocks of shares in the Atchison, the Baltimore and Ohio, the Chicago, Milwaukee, and St. Paul, the Chicago and North Western, and the New York Central.

The Missouri Pacific is the holding company for the Gould system. It owns the entire share capital of the St. Louis, Iron Mountain, and Southern, and large interests in the Denver and Rio Grande, the Texas and Pacific, and the Wabash. Since 1907, when the Consolidated railway company was merged in the New York, New Haven

and Hartford, the New Haven has been a great holding company with chartered powers to invest in or to operate almost any sort of business in which it may find a profit. Besides the New York, Ontario, and Western, it controls through share ownership, the Central New England railway. It also owns all the shares and bonds of the Boston Railroad Holding company, chartered by Massachusetts, in 1909 [17] to take over the New Haven holdings of Boston and Maine shares. Through this company the New Haven now holds substantial control of the Boston and Maine.

Single Railroad Holding Company Proposed.—Mr. William W. Cook, a New York attorney of recognized standing, has proposed the holding company as a means through which the railroads of the country might be brought together to the mutual benefit of themselves and of the public. He would have this company chartered by congress to acquire gradually the shares of all the railroads directly from the owners and also in the open market. In exchange for these shares it would give its own shares at a valuation to be determined by the interstate commerce commission, or cash obtained from the sale of its own shares in the open market. This corporation would have a board of directors made up of the members of the interstate commerce commission and representatives of the shareholders sufficient to constitute a majority. To the interstate commerce commission also, would be given power to vote the railroad shares to be held by the holding company. Railroad shares once purchased could not be sold or encumbered, so there would be no temptation offered to financial interests to seek control. Finally, to make the shares of this company attractive, a government guarantee of dividends at a low rate, three per cent., is suggested, all advances on this account

[17] L. 1909, c. 519; also *Commercial and Financial Chronicle*, LXXXVIII, 1618.

to be made good to the government out of future surplus.[18]

Effects of Consolidation.—Consolidation has indisputably resulted in the development of operative economy and efficiency, and consequently in greatly improving the quality of service. But the effect upon the service has not been uniformly favorable. At the very beginning of the period of trunk line development, Henry V. Poor deplored the progress of consolidation in the belief that: "Just in proportion as the mileage of a railroad is increased, will the sense of responsibility be weakened on the part of those entrusted with its management." [19] This of course cannot be maintained as a general proposition, but it is only necessary to cite the instance of the Boston and Albany under its lease to the New York Central to show that consolidation may result in the introduction of bureaucratic methods of administration with the inevitable effect upon the quality of service.

The effect of consolidation upon rates has been to promote stability. The more flagrant varieties of rate-cutting have been done away with, though other influences have also been operative to produce this result. Community of interest has proved a disappointment as a means of promoting the stability of rates. It has served, however, to promote the formation of territorial groups, and the concentration of railroad control in the hands of a small number of financial interests. But competition, as President E. P. Ripley of the Atchison once pointed out, is not necessarily restricted by consolidation. According to his statement, the general result of consolidation upon his system has been to relieve competition at one point and to intensify it at another.[20] Upon the adjustment of rates as be-

[18] Cook, "A Governmental Holding Company," *North Amer. Rev.*, CLXXXVII, 886-97 (1908); see also Rankin, "An American Transportation System," 259-450. (1909.)

[19] Poor's Manual, 1869-70: xxxi.

[20] Chicago conference on trusts, 553.

tween different cities and different sections of the country, consolidation has had an undoubted effect.

Consolidation has affected the holder of railroad securities in as many different ways as there are varieties of securities and methods of consolidation. Bondholders in small companies which have been absorbed have generally profited; for when they have retained their bonds they have often received a guarantee of interest payments, and when they have given up their bonds in exchange for bonds of the consolidated company they have on the average bettered their security. Shareholders have frequently received guarantees of dividends, or they have exchanged their shares for securities in the consolidated company upon terms which usually have been liberal. When, as in the case of the Lake Shore, a small number of shareholders refuse to accept the terms of exchange, they may ultimately sell their holdings at a great advance, but this fact does not of itself afford ground for the charge that the terms were unreasonable. A higher price is to be expected from the decreased supply of outstanding shares. On the other hand, security holders in the company which offers these generous terms may profit from the increase of traffic resulting from the merger. But as such transactions are most often carried out in prosperous times, there is danger that optimism may lead to the payment of excessive prices for securities, or the giving of guarantees which may add to fixed charges.

In general the securities of a consolidated company are based upon a greater range of property, and their ownership is more widely distributed. They are therefore less liable to disturbances resulting from local causes but more subject to the changes of the stock market. The investor in the shares of such a company must face the fact that consolidation usually results in inflation. As a result of consolidation many standard investment shares—Burling-

ton, Rock Island, Lake Shore, Michigan Central—have disappeared from the investment field, and there is difficulty in determining the desirability of the securities issued in their stead.

Public Interest.—From the viewpoint of public policy there is cause for concern in the fact that in consolidation involving the issue of additional securities it is almost impossible to eliminate the speculative evil. More than one consolidation has been carried out to the accompaniment of ugly rumors which none have attempted to deny. Capitalists with daring use of credit have captured whole systems through aid of the collateral trust bond, and established themselves in positions of stable control by means of the holding company, the fundamental idea of which is to enable a minority to rule. Competent financiers maintain that such an autocratic device must unquestionably result to the public advantage. Others as competent affect to see in it the promise of a downfall of efficient management and bankruptcy on a tremendous scale. However that may be, minority rule in railroad finance is no new thing, if we are to consider the interests of all the parties concerned. The bondholders have long furnished the bulk of the capital, but the management has usually been in the control of those whose actual contributions have been comparatively small; and this relationship has been maintained despite the protests of injured parties. The subject of consolidation cannot be discussed without reference to the question of the fidelity of directors to their trust. We have made great advances in the ethics of corporate management [21] since the time of Alexander Mitchell and Commodore Vanderbilt; but conceding the necessity for railroad consolidation, we may well maintain a watchful care to see that the terms by which it is effected are equitable in themselves and fair toward the public interest. Said

[21] See Hadley, "Standards of Public Morality," 79-96.

Charles Fisk Beach, Jr.: "Legitimate railway management imperatively requires that the manager of a railway keep out of Wall Street, at least so far as the securities of the road he manages are concerned. It is his function to operate his road and to discharge the trust committed to him as a business man, and not as a bull or a bear on the Stock Exchange."[22] This statement, written twenty years ago, still has its application.

[22] *Railway and Corp. Law Jour.*, VI, 62.

CHAPTER XVII

OVERCAPITALIZATION

Fundamental Concepts Relating to Capital.—As has been said in preceding chapters, indefiniteness of concept as to what constitutes capitalization—what are capital assets and what are capital liabilities—has necessarily caused confusion of ideas and lack of conclusiveness in discussions of overcapitalization. Proceeding from well chosen premises, some writers have convinced themselves that such a condition as overcapitalization is impossible. Others have admitted the possibility, but they have insisted that the condition does not exist. Still others see in what they call overcapitalization, a serious menace to both public and private welfare. Accepting the definition of corporate capital which is commonly employed in considering the financial affairs of an individual or of a partnership; assuming that capital assets are all those funds, properties, and equipment required for continuous, productive use, and that capital liabilities are those obligations assumed in procuring those funds, properties, and equipment, a corporation can be overcapitalized only when it has more resources than it can economically employ in carrying on the business for which it is organized and maintained. This would be equally true whether considering its assets or its liabilities.

The relations of investors to the corporation and their relations to each other are expressed in the contracts of the corporation. When the entire amount of capital is obtained from shareholders, overcapitalization will have the effect of reducing the proportionate returns in dividends

or the equitable rights in the distribution of the surplus. When there are several classes of shareholders, each holding different rights, overcapitalization might work hardship on common shareholders by having all the net revenue and surplus, and under certain contracts of preferment, all the capital as well, absorbed by those holding preferential rights. For the same reason, when liabilities are issued to creditors for capital, the inability to use advantageously all the funds, properties, and equipment might operate to defeat the interests of shareholders. Consideration of these possibilities serves only to clear the way; since from the viewpoint of the corporation or of the investor, American railroads have been overcapitalized in but few if any instances. The common experience has been to have inadequate capital for conducting and developing the business of transportation.

The subject of overcapitalization, so far as it has any present interest, relates to the rights of the public in the public highway for the capitalization, operation, and maintenance of which corporations as agencies of the state have been chartered and capitalized. The public interest in the corporation may be stated as relating to control over the adequacy, safety, and convenience of the highway, over rates of transportation service, and over the administration of laws governing the conduct of business—the legality and morality of the agents of the corporation in their dealings with investors, with the public, with each other, and with the corporation itself. The limitations of public regulations of the affairs of the corporation, its capitalization, and its management, are expressed in constitutional and statutory provisions against violation of contracts, confiscation, and the exercise of control adverse to public policy. In legislation and judicial rulings, the guiding principle is adequacy of return on capital invested. The application of this principle depends upon ascertaining what is the

capital of the corporation to which a rate of return, judicially considered as adequate, is to be applied. From the viewpoint of the public, overcapitalization as the term is employed by those who are concerned with public regulation, is the amount by which the represented shares and capital liabilities of a corporation exceed the value of its capital assets.

Determination of the Amount of Capitalization.—As has been pointed out in another relation, the principal barrier to judicial consideration of questions of capital is lack of evidence. The most readily accessible form of evidence consists of records and documents. In dealing with matters of capitalization, this form of evidence is almost entirely lacking; in fact in many instances it has been the purpose of corporation managers to make such evidence unavailable. Documents representing capital contributions are not found in share certificates and in instruments of liabilities issued for capital. The best evidence of capital acquired is in the checks which represent transfers of funds, properties, and equipment acquired in exchange for securities issued; in instruments representing expenditures of funds acquired; and in the accounts of the corporation in which these documentary materials are assembled. In this respect the records of railroad companies are sadly lacking; the instruments representing liabilities are not to be relied upon; the instruments of transfer are purposely misleading; the instruments of expenditure are either incomplete or purposely deceptive; the accounts carry totals and balances which are of practically no value in arriving at judicial conclusions. Furthermore, railroad corporations have made no attempt to keep a true capital account. Unlike the English law, our statutes have not required railroad corporations even to account for capital receipts and expenditures, to say nothing of depreciation, waste, and loss. The only method of determining present capi-

talization open to public authority is appraisement; and except under extraordinary circumstances, this is impracticable for a court to employ.

Standards of Appraisement.—Statements and estimates as to the value of railroad properties have been based upon several different standards such as: original cost less depreciation; cost of reproduction; realization value; and the amount of outstanding liabilities. In this relation it is submitted that to be useful, judgment as to value must have reference to the purpose of the estimate; that none except the last is consistent with the purpose for which the appraisement is to be made; and that even that one cannot be employed without qualification owing to the failure of railroad officials to distinguish between capital and non-capital resources. In this case the appraisement is a matter of direct public concern. Conservation of the public interest without violation of constitutional and statutory guarantees requires evidence as to whether any particular form of regulation, desirable in itself, will prevent the corporation from operating so as to make an adequate return upon the investment.

Amount of Liabilities.—As related to the subject under discussion, the primary purpose of an appraisement is to determine what is the amount of the investment. But a court of inquiry, interested in the matter of public regulation, should not be concerned as to the amount of capital liabilities which are shown by the books of account of the corporation except to the extent that such evidence might furnish collateral evidence. Shares may have been issued in exchange for little money, or as a direct bonus to facilitate the sale of bonds. Or they may have been issued in exchange for properties which were taken at excessive prices. Bonds may have been issued at a discount; a practice the result of which would be to increase the actual rate above the contractual rate of return. A valuation of

assets which will serve the purposes of a court or commission which has under consideration a case concerning the fairness of railroad rates needs no other basis than that which is or should be employed by the railroad officials themselves in the preparation of a statement of financial condition. Both must assume that certain assets are for continuous, productive use, and that certain other assets are intended for immediate realization or .conversion into cash. Both must assume a different basis for the valuation of each class of assets, and consider the relation of estimated value of non-capital assets to non-capital liabilities in order to ascertain whether the capital has been preserved intact.

Original Cost, Less Depreciation.—A popular theory is that capitalization should be limited to original cost less depreciation, and that this standard would establish the investment basis for judicial consideration of the adequacy of charges for transportation services. Accepting this standard, the only function of an appraisement would be to test the adequacy of provisions which the corporation concerned has made for depreciation. But no railroad has accounts which will show this information. The book cost rarely if ever bears any definite relation to the amount which has been expended upon the property, and not until the interstate commerce commission was given full authority over railroad accounts was there any consistent attempt to keep a true capital account and to provide adequately for the factor of depreciation. Consequently, not an item in the balance sheet may be accepted without question as indicative of the investment basis for valuation. This being the case, the appraisement would have to begin with an inventory, the classification of which would have little or no relation to the accounts.

Original Cost Impossible of Determination.—Many railroads were built by construction companies, which received

compensation far in excess of the actual outlay of capital. And, as has been shown, it has been the custom to give shares as a bonus in order to facilitate the sale of bonds to finance the construction of lines into undeveloped territory. In the case of far too many railroads, construction has been carried out by an incompetent or dishonest management, whose extravagances or peculations have added to costs. Labor and materials have often been obtainable only at high prices, and much capital has been expended upon experiments with facilities which have become obsolete before adequate return could be derived from their use. Thus iron rails costing fifty dollars and upwards per ton were laid upon all early railroads, only to be displaced by rails of steel after the introduction of the Bessemer process. It has been claimed that the original rails upon the Central Pacific cost over one hundred and forty dollars per ton.

While there may have been sufficient reasons for the capitalizing of such expenditures in the first instance without regard to their propriety, there are valid objections to allowing the balance-sheet cost thus set up to remain as a permanent burden upon the future. Without liberal deductions from surplus to eliminate excessive capitalization, as is the practice with industrial concerns, railroad costs as shown by the accounts have only bookkeeping significance. On the other hand, original cost may be too low to represent the amount which may be properly capitalized. Construction may conceivably take place at a period when labor and materials are at an abnormally low level of prices, and it is only fair that a return should be allowed for managerial efficiency which makes this possible. Most railroad systems contain subsidiary lines which have been taken over at exorbitant prices, yet in the majority of such cases the elimination of competition or the acquisition of a position of strategic advantage has fur-

nished a sufficient reason to warrant the expenditure.

Cost of Reproduction.—Cost of reproduction as a basis of valuation has been accepted with some modifications by the courts in cases concerning the fairness of rates. This involves the determination of the cost of rebuilding or reacquiring the property under present conditions, fair allowance being made for depreciation so as to represent the property at the time of valuation. In employing this method, it is the practice to leave out of consideration all property which is not concerned with transportation. On the other hand, some have thought it improper to appraise realty as well as structural property upon the basis of cost of reproduction upon the ground that real estate differs from other varieties of railroad property in that it is not subject to reproduction "in unlimited quantities, and of uniform cost."[1] But if deduction is made for depreciation of structures, so also may allowance be made for additions to represent the differential advantage accruing to a railroad from the possession of rights of way or terminals of strategic value. It is submitted that the possession of the terminal properties in New York by the New York Central is an indication of foresight and capacity, while the neglect of the Wisconsin Central to obtain independent entrance into St. Paul, Minneapolis, Milwaukee, and Chicago indicates the absence of such qualities. It is suggested also that to allow a return that is proportionate to efficiency is only fair. As the railroad commission of Wisconsin has said, "The owners of railroad property are entitled to any increase in the value of their property that may accrue from the progress of the territory in which it lies, and . . . they have as much right to the natural increment in the physical value of their property as the owners of any other property."[2]

[1] Dr. Henry C. Adams, in Report of the industrial commission, IX, 375.

[2] Buell v. Chicago, Milwaukee, and St. Paul, February 16, 1907;

Official Appraisals.—Official appraisals of railroad property have been made in several states. The railroad commission of Texas, acting under authority of the commission laws of 1891 [3] and 1893,[4] determined that to duplicate the railroads in that state would require $16,500 per mile.[5] In this estimate, however, no deduction was made for depreciation. A senate committee in Minnesota reported in 1907 that $27,000 per mile would represent the cost of reproducing the railroad property in that state. Both of these appraisals were undertaken to ascertain a fair valuation upon which the reasonableness of rates might be determined. The railroad and warehouse commission of Minnesota in 1908 made a thorough investigation of the physical value of railroad property, and prepared estimates according to two plans which represented, respectively, the contentions of the commission and of the railroad companies as to the factors to be included in the appraisals. According to one estimate, the value of the physical property of the nineteen carrying railroads in the state on June 30, 1907, was $45,799 per mile of main line roadway, $43,358 per mile of all main tracks, and $33,583 per mile of all tracks. According to the other estimate, the corresponding figures were $39,571, $37,462, and $29,016.[6] Michigan in 1900 and Wisconsin in 1903 conducted investigations to determine the valuation of railroad property as a basis for taxation. Upon the principle of cost of reproduction, Michigan railroads were found to be worth $21,500 per mile, or without allowing for depreciation, $26,100. In Wisconsin, $25,500 per mile was the valuation set upon the property, and it was estimated that $30,900 per mile would represent the cost of duplicating it

162. See also Baker, "Valuation of Terminal Lands," *Jour. of Accountancy*, VIII, 237-49.

[3] L. 1891, c. 51.

[4] L. 1893, c. 50.

[5] Annual reports, 1894-6.

[6] Annual report, 1908: 55, 76.

in perfect condition.[7] The board of railroad commissioners of South Dakota reported that the value of the railroad properties in that state on June 30, 1909, was $23,183 per mile of main line, and that the reproduction value was $26,925 per mile of main line.[8]

Distinction Between Valuations for Taxation, Rate Making, and Capitalization.—The results obtained in these states furnish us with certain rough indexes of value, but it is submitted that valuation for the purpose of taxation should not be the same as valuation for determining the reasonableness of rates, and that neither will necessarily bear any definite relation to valuation for the purpose of establishing proper relations as between investors. For taxation, principles of equity require that each citizen and enterprise shall contribute according to ability. Ability to contribute is ability to obtain revenue; and valuation for taxation may be fairly placed on an income basis. For rate-making, principles of equity require that the rate should not be arbitrarily reduced by governmental authority below a point at which, with efficient management, a fair rate of return upon the investment may be obtained. For purposes of adjustment of relations between those who hold bonds and shares, a great variety of conditions may require consideration, but with them neither the taxing body nor the regulating body would be concerned.

In determining a basis for taxation it is customary and proper to assess all railroad property which was received in the form of donations, whether the property is used for transportation purposes or not; also all franchises, and non-physical rights which contribute to earning power. But an appraisement for the purpose of establishing a fair

[7] Ripley, "Railroad Valuation," *Pol. Sci. Quar.*, XXII, 577-610; "Railway Valuation in Michigan and Wisconsin," Census Bulletin, no. 21: 76-87.

[8] Board of Railroad Commissioners of S. D., Railroad appraisal, tables 3 and 4.

basis for rate-making might properly exclude all these items except donations; and donations could not be included in an appraisement for determining a fair rate of return on investment.[9] There is no good reason why the capitalization of good will should not be allowed for purposes of taxation, but this would be of questionable propriety if the purpose be rate-making. Favorable connections with established industries and with other railroads and efficiency of management tend to increase earning power. To limit capitalization to actual investment would cause a railroad thus situated to receive a high rate of return, but one which could not be reduced through a governmental reduction of rates of transportation without jeopardizing those competing railroads which are less favorably situated. For purposes of taxation, the non-physical value of Michigan railroads, as determined by Doctor Henry C. Adams, included franchise values,[10] and the aggregate was only about twenty per cent. of the cost of reproduction of the physical properties at their full value, or an amount substantially the same as that which was deducted to represent depreciation. This result was obtained from the income accounts of a series of years by capitalizing at seven per cent. the surplus which remained after deductions had been made from net corporate in-

[9] "We do not believe that the good will of a railway company; the supposed franchise value, the advantage due to strategic location, or the efficiency of the organization of the company as affecting the ability to facilitate the performance of its duties as a common carrier should be taken into consideration for the purpose of arriving at the value of the railway company's property. . . . The rate charged to the public for the transportation of property should not be based upon any value which takes into consideration any supposed intangible value or any franchise value, nor should it be based upon any charge for the efficiency of the organization of the company to perform its duties to the public."—*Ibid.*, 5.

[10] In Massachusetts the practice of capitalizing franchises never has been tolerated, and except to the extent that money has been actually paid for a franchise it has been forbidden by New York (L. 1907, c. 429, § 55) and Maryland (L. 1910, c. 180, § 27).

come to provide for taxes, rentals, maintenance, and betterments.[11]

It is apparent that the primary purpose of valuation for taxation or rate-making would not be secured by estimating cost of replacement. A franchise which may have cost nothing may not be renewable at any cost; a franchise which cost millions might now be had for the asking; terminal lands may have been donated which would now cost millions of dollars, or they may be obtainable under present conditions at less than their actual cost. A tunnel, constructed according to the methods of a generation ago, may have cost more than would be required now. While these estimates might serve a useful purpose in determining the amount of reserve which should be set aside for insurance, depreciation, or new construction, they would not be of material assistance in the determination of the amount of capital funds which have been invested, or at what amount the investment stands at the time adequacy of return upon investment is a material issue in considering the limits of public regulation.

Realization Value.—Again, it is a matter of no concern for either taxation or rate-making as to what amount might be realized on roadbed, structures, and equipment if sold. Any appraisement which will be useful for these purposes must be of the properties as a going concern. The value of the capital assets of a corporation which has obtained them and intends to use them for productive return has no relation whatever to the amount which those assets would bring if sold. The value of the New York Central terminal lands in New York cannot be found by considering those properties merely as real estate. A more adequate figure would be obtained by considering the

11 Adams, "Valuation of the Non-physical Element in Railways," Mich. Pol. Sci. Assoc., *Publications*, IV, 293-6; Census Bulletin, no. 21: 78-81; Report of the industrial commission, IX, 375-9.

amount which the Pennsylvania found it necessary to pay for entrance into that city.

On the other hand, various arguments have been presented by special pleaders attempting to show that upon the basis of commercial valuation, our railroads are not overcapitalized. These may be dismissed as irrelevant. Nor is the amount paid for a railroad or for railroad securities to be considered without qualification. Assuming that through collusion, speculative plunging, financing for purposes of control, or from any other motive, an unwarranted amount had been paid for a property, this is no reason why the public should be estopped from receiving the benefit of such rates as would be equitable and just if the property had been built anew. To the extent that bad judgment has been used in purchasing, or that shares or bonds have been distributed with regard only to adjusting conflicting investment relations, or that shares have been purchased and sold in the market without regard to the condition of the property, or purchased and sold at prices determined by present earnings which are unfair to the public, these circumstances should not be permitted to operate as a permanent barrier to ultimate adjustment of rates of transportation. Many of these factors have not the remotest connection with the questions at issue, and it is unnecessary to consider them seriously here. With all due allowance for the large sums which have been expended upon betterments and additions and charged against current earnings, thus reducing the original amount of inflation, the considerations which have been advanced point to the conclusion that while the amount of excess is relatively small, there is undoubtedly some inflation in the securities of many railroads, and in the case of some, such as the Rock Island, the Southern, and the Minneapolis and St. Louis, the amount is considerable.

Occasions of Inflation.—Advantage has been taken of

various occasions to increase the par value of liabilities without regard to the real capital of the corporation. Writing in 1869, Mr. Charles Francis Adams, Jr., said:

> Almost every conceivable vicissitude of railroad fortune has at some time served its turn as an excuse for stock watering. Companies have watered their stock because they were rich and had a surplus, and they have watered it because they were poor and could not make dividends; they have watered it because they did not have stock enough, and recently Erie has been flooded because there was so much of the stock that more made no difference. Stock has been issued because roads have been subjected to opposition, and it is regularly issued because they are exempt from it.[12]

Many railroads have been overcapitalized at the outset by issuing liabilities in excess of the investment represented in assets, others have been inflated through the process of consolidation, but probably the greatest part of the watered shares now outstanding is the result of reorganization.

The methods by which fictitious capital liabilities have been set up have varied with individual cases. It has been necessary to sell bonds at a discount in order to obtain capital for the construction of new lines into undeveloped country. This practice may not be open to criticism as a method of financing, but there can be no justification for allowing the represented cost to stand as a reason for charging the public exorbitant rates for the use of the highway. Nor is it a reason for deceiving the public as to the value of securities. Even from the standpoint of operating cost, the amount of the discount should be charged off through a series of years. Yet this has not been generally done; nor has it been seriously considered in the determination of what it is proper for the railroad to earn.

Construction.—Allied to the sale of bonds below par is the granting of the share bonus. The motive in either

[12] Adams, "Railroad Inflation," *North Amer. Rev.*, CVIII, 139-40.

case is the same—to provide a market for the bonds. In practice, the share bonus has been one of the most effective instruments of the speculative builder, who, not content with normal profits, has wished to share in the prosperity resulting from the activities of those upon whom he has unloaded his property. But the railroad promoter has not been satisfied with the profits arising from the use of any one of these methods. The railroad construction company has also contributed to inflation through excessive prices for work and materials supplied under contract. A similar method has been the acquisition of other lines of railroad from persons connected with the company, who by virtue of their relation have acted both as buyers and as sellers. Evidence of this practice is usually difficult to obtain, but that it has been often followed there can be no doubt. On the other hand, it has sometimes been good policy to take over the control of another railroad at prices which under ordinary circumstances would be justly considered excessive. In the purchase of equipment, also, there is opportunity for inflation. A railroad will order cars from a builder, who in turn will procure his castings from a foundry. This foundry will bill the car builder at a price set by the railroad and then return as a rebate to the railroad the difference between the cost of the cars and their value. The car builder in turn will bill the railroad or the trustee of the car trust securities for an amount to cover this fictitious cost plus his work of assembling. The railroad will then apply the rebate to the credit of a reserve account, instead of the equipment account. The result is to place a fictitious value upon the equipment.

Reorganization.—The substitution of a large amount of low-grade securities for a small amount of securities of high grade has been the most common form of stock-watering within recent years. Usually this change has taken place in the course of reorganization proceedings, the un-

derlying purpose being to conform the securities to the dictates of commercial necessity in such a manner that present sacrifices may be eventually made good out of future profits. Thus junior bondholders have been asked to submit to a reduction in the rate of interest on the principal, and to obtain their assent a return in the form of some preferred shares and a large amount of common shares has been offered. Instances of railroads which have inflated the par value of outstanding shares through process of reorganization are furnished by the Atchison, the Baltimore and Ohio, the Erie, and the Southern. In the case of the Erie and of the Southern as well, shares were issued upon which it was never expected dividends would be paid. There can be no question that the represented par value of their shares should not be considered in determining the rates for service to the public. Judicial consideration of a fair return on investment cannot concern itself with the practice of issuing such bonus shares at reorganization, for through this method a determination of capital assets would be an impossible task.

Inflation of capital liabilities may also be brought about through the substitution of securities for unsecured or collateral notes. Thus the funding of the floating debt may result in an increase of the amount of represented capital liabilities without causing an increase of capital assets.

Consolidation.—Consolidation has afforded opportunity for inflation under pretense of bringing the values of the shares of the constituent companies to a basis of equality. At the organization of the New York Central, the par value of capital liabilities of the new corporation exceeded the aggregate par value of capital liabilities of the constituent companies by about fifty per cent. In the same way the capital of the Lake Shore and Michigan Southern was inflated. Overcapital-

ization may be said to have been the usual accompaniment of most early railroad consolidations, and as in the period of industrial consolidation in the nineties, inflated securities afforded promoters an opportunity to obtain their profits. Yet in most instances the railroads which have been overcapitalized in this manner have been able to increase their net income to such an extent as to pay dividends and bring the market price of securities up to par; and in many instances by means of liberal appropriations of earnings to betterments and additions to property, they have been able to increase their capital assets correspondingly. It is interesting in this connection to note that in the article of Mr. Adams, to which reference has been made, the New York Central, the Lake Shore, the Pennsylvania, the Pittsburgh, Fort Wayne, and Chicago, and the Chicago, Burlington, and Quincy railroads were cited as examples of lines which were grossly overcapitalized. Such a charge could not be made to-day.

Within recent years inflation has been effected through the medium of the holding company. By this device it has been possible to issue securities in amounts limited only by the desires of promoters. The Reading, Southern Pacific, Seaboard, and Rock Island companies furnish cases in point.

Share Dividends.—The issue of share dividends is a time-honored method of inflation. Shares may be issued in this manner to represent legitimate diversions of surplus earnings to betterments, additions, and extensions. In this way, also, surplus earning power may be capitalized upon the principle observed in private business enterprises. The well known case of the Chicago and Alton, in which $120,000,000 of securities were issued to represent an actual investment of only one-third that amount, may be cited again as an illustration of the extent to which financiers have gone in the absence of legal or corporate

restraint. A common motive behind the share dividend is the concealment of earnings in order that legislative interference with transportation charges may be averted. Shares have been issued in this manner, also, for purely speculative purposes by directors who have taken advantage of their positions to enrich themselves at the expense of those whose interests they were elected to serve. The most glaring instance of this sort is undoubtedly that of the New York Central in 1868, when, at a special meeting of the directors held at midnight at the residence of one of the New York directors, a dividend of eighty per cent. in shares and four per cent. in cash was declared. This increased the represented capital liabilities by $22,500,000. As the shares of this company had been depressed in the market for some time prior to the announcement of this action, a speculative clique composed mainly of directors was enabled to buy large blocks of shares upon which great profits were realized by the holders, but with no benefit to the corporation and with no regard for the interest of the public.[13]

Represented capital liabilities may be inflated, also, through an issue of script conveying to shareholders the right to subscribe to new shares, but only in case the privilege to subscribe be offered below par. By this method the surplus is represented in capital liabilities at an amount in excess of capital assets by the amount of the discount. In 1900 the Baltimore and Ohio offered new shares to shareholders at eighty cents on the dollar.

Urging vested interest as a basis of appraisement, it is sometimes claimed that the investment of the holder of capital liabilities is the amount which he paid on the market, and not the amount which the corporation received from the original contribution of capital. Such a method of reasoning cannot be allowed to prevail without defeat-

[13] *Commercial and Financial Chronicle,* VII, 813-4.

ing the purpose of the valuation. The price paid by the present holders may have been speculative; it may have been several times that originally paid to the corporation; or it may have been much less.

Results of Fictitious Capitalization.—The question of overcapitalization is one which is of interest from the standpoint of the shipper, the investor, and the public.[14] There is a wide difference of opinion as to the effect of fictitious capitalization upon rates. It is held by many that railroads tax the shipper to pay dividends on watered stock, but of this contention President Hadley has said: "Of all the charges against the railroads this is the most popular; yet it is one which has the least foundation."[15] Similar opinions are held by Mr. Thomas F. Woodlock,[16] and by other financial writers of prominence. Judge Martin A. Knapp, former chairman of the interstate commerce commission, maintains that overcapitalization has no relation to the subject of discriminatory rates on competitive lines, but when it comes to the determination of what constitutes a rate which shall be fair in itself, or a proper charge for non-competitive traffic, he admits that the question of represented capitalization in its relation to fair valuation of assets must be considered.[17] This need not differ materially from the view of Hadley and of Woodlock. A more adequate statement of the case has been given by Doctor William Z. Ripley, who says:

[14] This was hardly the opinion of Sidney Dillon, who said: "As a matter of reason and principle, the question of capitalization concerns the stockholders, and the stockholders only. A citizen, simply as a citizen, commits an impertinence when he questions the right of any corporation to capitalize its properties at any sum whatever."—"The West and the Railroads," *North Amer. Rev.*, CLII, 446. We have made some progress, it seems, since the time when such views were given serious consideration.

[15] Hadley, "Railroad Abuses at Home and Abroad," *New Princeton Rev.*, II, 359.

[16] Report of the industrial commission, IX, 456-7.

[17] *Ibid.*, IX, 144.

But indirectly, capital does have some connection with rates. In the long run excessive capitalization tends to keep rates high; conservative capitalization tends to make rates low. Rates . . . are governed by "what the traffic will bear." An important element in determining what the traffic will bear is the pressure of competition, where it exists. Two kinds of competition are to be distinguished here, which have been termed respectively direct and indirect competition. Direct competition is that between lines covering the same territory or connecting the same terminals; indirect competition takes place between roads having no territory, in common, but serving producers who are competing for the supply of the same markets. . . . This sort of indirect competition in the distribution of products puts a certain check upon rates, even where direct competition is entirely absent. Where competition of either kind exists, rates are not dominated by the amount of capitalization. But competition in either form is not always present. Where it is absent, overcapitalization with high fixed charges and dividend requirements may lead to the raising of rates above the amount that would give reasonable returns upon the actual investments. High capitalization tends, moreover, to keep up rates by preventing voluntary concessions which might otherwise have taken place. A company paying high dividends may find it expedient to lower its rates in order that the appearance of exorbitant profits may not excite a hostile public opinion. But if returns from excessive rates can be distributed in dividends on watered capital, the public is not aroused to demand reductions. High capitalization, therefore, has at least an indirect bearing on rates. The amount of railroad capital is not to be regarded as a matter of no concern to shippers.[18]

Thomas L. Greene also assumed that the public had some interest in the matter, saying: "What the community has lost in freights and facilities, through the efforts of the managers to pay dividends on doubled capital at a rate which should nominally be as high as the usual interest on borrowed money, can only be a matter of conjecture."[19] The amount, in his opinion, however, was small. But, as

[18] *Ibid.*, XIX, 414-5.
[19] Greene, "Corporation Finance," 139.

he pointed out, the shipping public is concerned not only with fair rates but with adequate facilities as well. Here, again, overcapitalization has an evil effect. "When a decline in profit comes, stock-watering has a direct effect. The managers, knowing that a reduction in the dividend rate . . . will be very unpopular, strive in every way, legitimately and illegitimately, to continue the old payments. They will withdraw trains, will discharge employees, will buy less supplies, and in every way will endeavor to increase their net earnings up to the former amount, with the result that the public are deprived of facilities to which they are entitled and which they might otherwise obtain."[20]

Whatever difference of opinion there may be as to the effect of inflation upon the shipper, there is general agreement as to the wrong it may do the investor. Thus President Hadley says:

> The worst of the matter is that when the practice of stock-watering once becomes tolerated it is definitely abused by those who are in a position to do so. If companies begin to issue fictitious capital there is no limit to such issues. A false capital account gives opportunity for every kind of stock-speculation and for all sorts of illegitimate methods of control by financial operators.[21]

This was also the opinion of Greene, who said:

> Another objection to stock-watering is that while it provides a method by which capitalization and profits may correspondingly increase, it affords no means of registering a decline in those profits, for shares once issued cannot readily be found and called in. In speculative America fluctuations in business profits are to be expected, and one of the embarrassing things in Wall Street is the presence there of shares having little or no intrinsic value, but which may be used by unscrupulous and sometimes almost penniless adventurers to obtain possession of a rail-

[20] *Ibid.*, 141-2.
[21] Hadley, "Economics," 168.

way or other company. The temptation in such cases is great, for the men thus placed in control to recoup themselves in some way for the cost of purchasing that control. Low-priced stocks cannot, of course, be avoided, but their number might be largely decreased if we could remove from the exchange those shares which represent "water" principally, and which have fallen below the expectations of optimistic stock-waterers. . . . An unreal prosperity may be brought about through an illegitimate curtailing of expenses and in other ways, so that an extra issue of stock may falsely be made to seem justifiable on grounds of large but fair profits. Or honest prosperity may come up quickly to fall as quickly. In either case, whether through fraud or error, the increase of capital stock may be commercially unwarranted and a source of loss to innocent investors. Again, parties in control of a railroad or other large corporation owning comparatively few shares, may decide suddenly to distribute new shares free, and, by taking advantage of their exclusive information, may, if unrestrained, make large sums of money for themselves. Or, further, a company's directors, to perpetuate their control, may issue new shares to themselves at merely the cost and trouble of buying old shares on a margin. This may result in giving over to men not equitably the real owners, the management of an important property. Such control is not likely to be exercised for the public good, but rather for speculative purposes. Such stock-watering as this is an abuse of the principles of good corporation finance, against which it is the right of the state to protect itself by all legitimate means.[22]

Professor Ripley says of the evils of overcapitalization:

It invites unearned profits on the part of promoters leading to corporate organization or financial readjustment in unnecessary or unmerited instances. It stimulates extravagance on the part of banking syndicates in the prices offered or paid for constituent companies. It facilitates internal mismanagement, even promotes actual fraud, by the ease with which the most alert stockholders may be confused as to the real standing of their own company. And finally, it invites speculation and stock market jobbing among the public by the relatively small capital necessary to deal in, or acquire control of, considerable blocks of stock. . . . In most cases, probably, the evils ascribed to overcapitalization are merely concomitant rather than resultant.

[22] Greene, 140-1, 143.

> In other words, overcapitalization is often merely an indication of financial recklessness, which makes itself known coincidently in other phases of corporate conduct.[23]

He also points out as a fundamental evil of overcapitalization "the absence of adequate security, first, for the creditor, and secondly, for the shareholder"; adding that "it is obvious that borrowing capacity, while dependent upon current revenue for its interest, must ultimately rest upon the attachable property for final security."[24] This suggests that receivership may have more than a remote connection with overcapitalization, for an overloaded property must necessarily have more difficulty in extending its loans than one against which only a moderate amount of securities is outstanding. If the time for renewing its loans should fall in a period of financial stringency, recourse to the courts is imperative. The cases of the Chicago Great Western, and the Seaboard Air Line, both in 1908, may be cited in this connection.

The privilege of issuing securities without limit, either coupled with the public subsidy abuse or alone, has acted as an incentive to the construction of much unnecessary mileage. It is true that railroads extended into undeveloped territory usually became paying properties after a time, but it is also true that if construction could have proceeded with less speed, the public would have been better served, and investors saved much loss. As to such railroads as the West Shore, "Nickle Plate," and Chicago Great Western, it would be difficult to discover a legitimate reason why they should ever have been built.

Inconsistency of Public Attitude.—In its attitude toward the matter of railroad capitalization the public has been inconsistent, and it is undoubtedly true that the re-

[23] Ripley, "Trusts, Pools and Corporations," xxiii-xxiv.
[24] *Ibid.*, 125.

sult has been an increase of the evil of stock-watering. By attempting to limit both the amount of the returns which a railroad may pay to shareholders, and the amount of capital liabilities which it may issue, the public has allowed its prejudice to defeat its own ends. "By this prejudice against high dividends," according to Greene, "the public is itself mainly responsible for such issues of unpaid stocks as are made to conceal the fact that the earnings are larger than the usual rates of interest, and thus, also, it often comes about that the public deprives itself of a certain natural protection against unfair or inequitably fair earnings, which if openly paid might attract competition through the openly displayed possibility of large profits. Such restrictions upon dividends do sometimes affect the number of improvements made in property or in train service by turning to betterments funds which would otherwise be distributed to stockholders, but this is the utmost."[25] Again, "Public opinion still insists that the rates of dividends paid by corporations shall be measured, as to their fairness, by the ruling rate of interest on borrowed money. It is constantly said that five or six per cent. annual returns on the share capital of a company is all that should be paid, since about that percentage is the normal yield on bonds or commercial paper or paid on notes discounted at the banks. It is overlooked that the standard thus set is the rate on money loaned on good collateral, and considered secure both as to interest and principal. The comparison may be proper as between the prevailing rate of interest and that paid by the company on its bonds; but manifestly the returns on that part of the capital hazarded by the shareholders should not be so judged. . . . The remedy for stock-watering, therefore, even in its innocent form, is not additional law, but a change in public opinion, which shall allow the payment

[25] Greene, "Railroad Stock-watering," *Pol. Sci. Quar.*, VI, 480-1.

of ten, twelve, or fifteen per cent. if legitimately earned, to the shareholders of corporations."[26]

Such a contention is not without force; but it cannot be too often reiterated that our railroads have been built largely out of the proceeds of their bonds, and that in states where railroad construction has proceeded on a share capital basis, the risk has been small and the dividends have been generally at a higher rate than has been received on secured loans. It is not that the public has objected to a high return upon shares which represent corresponding value in assets, or the possession by the management of qualities of foresight and prudence, but so numerous and so flagrant have been the instances of abuse by railroad directors of their position of monopoly advantage over the public and their secret advantage over investors themselves that radical and futile restrictive legislation might have been expected as a natural consequence.

State Regulation of Issuance of Securities.—Notwithstanding the obvious need for laws imposing effective restraint upon the issue of securities, the confusion of the public mind upon the subject has been such as to reflect itself in either inadequate measures on the one hand, or drastic restrictions on the other. Many of the states have made no attempt whatever in this direction.

Although the railroads of Massachusetts were conservatively financed at the time of construction, the frequent issue of large blocks of new securities led the legislature to adopt a restrictive policy in 1894. At that time the issue of share or script dividends was forbidden, as was also the issue of any securities except for cash; and the distribution among shareholders of the proceeds of a new issue of securities.[27] It was further enacted that a railroad might increase its capital liabilities beyond the

[26] Greene, "Corporation Finance," 139. [27] L. 1894, c. 350.

amount allowed by its charter only upon the consent of the board of railroad commissioners, and the amount of the increase was left to the decision of the board after a hearing. New shares were first offered to existing shareholders at a price not lower than the market value of the old shares at the time the increase was determined upon, but it was for the board to declare what this price should be. Except in amounts of less than four per cent. of its capitalization, a corporation was to sell at auction shares for which there was no demand from existing shareholders; and no shares might be sold for less than par value.[28] Meanwhile, the old law limiting the dividends on shares to ten per cent. continued in force. Similar laws were also enacted in Maine,[29] and in New Hampshire.[30]

A special commission on commerce and industry reported in 1908 that the anti-stock-watering law of Massachusetts defeated its own purpose, and tended to discourage the investment of capital in Massachusetts railroads. It attacked the principle of the law, holding that when the state prescribed a price above par as a minimum basis on which new shares might be offered, it thereby limited itself in subsequent efforts to determine the fairness of returns upon investment in railroad shares, for it could not with fairness refuse to allow a return upon the basis which it had already established in its own interest. The commission declared, moreover, that the public is mainly concerned with the maintenance of satisfactory service at reasonable rates, and not with the earnings of the railroads. It therefore condemned the policy of limiting profits, so long as rates and service remain satisfactory.[31]

[28] L. 1894, c. 462, 472, 502; also L. 1897, c. 337. See also Bullock, "Control of Capitalization of Public Service Corporations in Mass.," Amer. Econ. Assoc., *Quarterly* (3 ser.), X, 384-414.

[29] L. 1897, c. 186; amended 1901, c. 173.

[30] L. 1897, c. 19, amended 1901, c. 42, and repealed L. 1911, c. 164.

[31] Commission on Commerce and Industry, Report, 57-69.

In 1908 the legislature modified the law by providing that new issues of shares may be offered to shareholders at such price not less than par as the shareholders themselves may determine, subject to the approval of the railroad commissioners. This price need be no longer fixed with reference to any assumed "market value," and the board of railroad commissioners is given full discretion to determine whether it is so low as to be inconsistent with the public interest.[32] New Hampshire's public service commission act of 1911 contains a similar provision.[33]

The state of Texas took action in 1893 to limit the amount of new securities which might be issued by railroad corporations by requiring that the amount of outstanding capital issues should not exceed the "reasonable value" of the railroad property, as determined by the railroad commission.[34] This law could have no effect upon the securities outstanding at the time of its enactment, except in the case of bonds which it is desired to refund, but it imposed an effective restraint upon the securities which could be issued to finance the construction of extensions and new lines. Because of this law the outstanding securities of Texas railroads were reduced from $40,802 per mile in 1894 to $31,530 per mile in 1906. During this period the mileage in the state increased twenty-five per cent.[35] This law imposed considerable hardship upon the older companies which had outstanding an excessive amount of securities, for it effectually prevented the financing of extensions. It was modified in 1901 when the railroad commission was authorized to ignore the amount of securities issued on the old line in de-

[32] L. 1908, c. 636; also c. 620. See also Calkins, "The Massachusetts Anti-stock Watering Law," *Quar. Jour. Econ.*, XXII, 640-5.
[33] L. 1911, c. 164.
[34] L. 1893, c. 50.
[35] Miller, "The Texas Stock and Bond Law and its Administration," *Quar. Jour. of Econ.*, XXII, 109-19.

termining the validity of a proposed issue for an extension.[36]

New York in 1889 and 1890 gave its board of railroad commissioners full authority over the issue of new securities, and in the public service law of 1907 provided that the public service commissions created by that act should have authority to warrant the issue by a public service corporation of such an amount of securities (except those issued for less than one year) as it might find to be reasonably required for the purposes of the corporation. This law also specifically requires that the securities issued by a corporation formed by the consolidation of two or more corporations shall not exceed the aggregate amount of their securities.[37] These provisions of the New York law have been essentially reproduced in a Wisconsin law of the same year,[38] in a Nebraska law of 1909,[39] and in the Maryland public service commission law of 1910.[40] Georgia,[41] Kansas,[42] New Jersey,[43] Ohio,[44] and Vermont[45] also have given their commissions jurisdiction over the issue of railroad securities. Iowa railroads may issue securities only with the consent of the executive council.[46] Arizona has forbidden railroads to issue bonds in excess of their authorized share capital.[47]

The right of a state legislature to delegate to a commission authority to regulate the increase of railroad capital has been assailed in several instances, but never successfully, except in Minnesota, where the supreme court in 1907 declared unconstitutional such a delegation of full

[36] L. 1901, c. 91.
[37] L. 1907, c. 429, § 55.
[38] L. 1907, c. 576.
[39] L. 1909, c. 108.
[40] L. 1910, c. 180.
[41] L. 1907, no. 223.
[42] L. 1911, c. 238.
[43] L. 1911, c. 195.
[44] L. 1911: 549.
[45] L. 1906, no. 126; amended 1908, no. 116.
[46] L. 1907, c. 71.
[47] L. 1905, c. 42.

discretionary powers to the railroad and warehouse commission of that state.[48]

Regulation by Interstate Commerce Commission.—In keeping with the general extension of the range of congressional control over the affairs of railroads, it has been proposed to give to the interstate commerce commission authority to regulate the issue of securities by railroads engaged in interstate commerce. According to this plan, before a railroad could increase its capital, it would have to obtain a certificate that the securities are issued with the approval of the commission and for a legitimate railroad purpose. The official recommendation of the president was as follows:

> I recommend the enactment of a law providing that no railroad corporation subject to the interstate commerce act shall hereafter for any purpose connected with or relating to any part of its business governed by said act, issue any capital stock without previous or simultaneous payment to it of not less than the par value of such stock, or any bonds or other obligations (except notes maturing not more than one year from the date of their issue), without the previous or simultaneous payment to such corporation of not less than the par value of such bonds, or other obligations, or, if issued at less than their par value, then not without such payment of the reasonable market value of such bonds or obligations as ascertained by the Interstate Commerce Commission; and that no property, services, or other thing than money, shall be taken in payment to such carrier corporation, of the par or other required price of such stock, bond, or other obligation, except at the fair value of such property, services, or other thing as ascertained by the commission; and that such act shall also contain provisions to prevent the abuse by the improvident or improper issue of notes maturing at a period not exceeding twelve months from date, in such manner as to commit the commission to the approval of a larger amount of stock or bonds in order to retire such notes than should legitimately have been required.
>
> Such act should also provide for the approval by the Interstate

48 L. 1887, c. 265; State v. Great Northern, 100 Minn., 445.

Commerce Commission of the amount of stock and bonds to be issued by any railroad company subject to this act upon any reorganization, pursuant to judicial sale or other legal proceedings, in order to prevent the issue of stock and bonds to an amount in excess of the fair value of the property which is the subject of such reorganization.

I believe that these suggested modifications in and amendments to the interstate commerce act would make it a complete and effective measure for securing reasonableness of rates and fairness of practices in the operation of interstate railroad lines, without undue preference to any individual or class over any others; and would prevent the recurrence of many of the practices which have given rise in the past to so much public inconvenience and loss.[49]

Argument in Favor of Federal Regulation.—Experience has already proved that a certificate of a responsible commission serves to strengthen the credit of a corporation and so enable it more easily to finance an issue of new securities. Furthermore, the fact that it may become impossible to inflate securities should increase the attractiveness of existing securities by tending to increase their relative earning power. With new construction capitalized at its cost, the employment of capital in railroads must be retarded, but as the new mileage will be better built, the average capitalization will tend to fall. The argument that this new attitude of government toward the railroads is hostile to sound business interests has been effectually refuted in the following terms by a competent spokesman of this and of the preceding federal administration:

These laws, rightly seen, mean a sounder, stronger and more widely diffused prosperity for the real corporate interests, namely, the owners of the railroad shares and securities. . . . Surely investors will buy bonds which represent one hundred per cent. of their face value in actual increase of the value of the property more readily than bonds which only enhance the

[49] Message of William H. Taft, Jan. 7, 1910, *Cong. Record*, XLV, 461.

security sixty, seventy, or even eighty per cent. of the increase in liabilities. Surely stockholders will find more satisfaction in their property, if it is not burdened with charges to pay interest on twenty or thirty per cent. of bogus indebtedness. Surely the great body of industry will be less provoked to enmity if their traffic is not called upon to pay fixed charges on that element of pure inflation. It is as much to the interest of the security holders that favoritism in rates and the flat quality in capitalization shall be prevented, as it is to the interest of the public that railroad capital shall earn a fair return on actual and uninflated investment. Railroad revenues cannot attain their broadest and most stable dimensions when dwarfed and diverted by these abuses; nor can the wide increase of transportation facilities needed by growing commerce be secured, unless it offers to the investment of actual capital an adequate and reasonably assured return. Legislation conceived and executed in the unchangeable resolution to maintain justice and honesty for and against all classes alike is beneficial for all alike, and establishes the foundation for the widest and most permanent national prosperity.[50]

Railroad Securities Commission.—Congress did not see fit to adopt this policy, but instead authorized the appointment of a special commission to investigate the subject. The report of this commission declares that for the present it would be impracticable to place the issuance of securities under federal control, since railroad corporations are already subject to state authority in this particular, and additional national restriction would only tend to create further confusion. It recommends the adoption of stringent provisions for thoroughgoing publicity as the most effective means of control which the national government has at its immediate command. But it points out, also, that additional legislation will be needed in the future to provide a remedy from the conditions resulting from the dual system of control of railroads by state and national governments, and from the conflict between the laws of

[50] Knox, "The People, the Railroads, and the National Authority," *Albany Law Jour.*, LXX, 147-8. (1908.)

the different states. It recommends, therefore, that the states should immediately attempt to harmonize existing requirements and that for the future congress should carefully consider the preparation of a permissive national incorporation act in order that the proper regulation of the issuance of railroad securities may be ultimately established.

Full Publicity Recommended.—As a means of insuring full publicity, the commission recommends that railroads should be required by statute to furnish the interstate commerce commission with a detailed statement of securities which they issue, the amount of the proceeds and the purpose for which they are to be used, with a subsequent accounting for such proceeds in such manner that the directors may be held responsible for their proper use. It also recommends that the interstate commerce commission be endowed with ample inquisitorial powers to enable it to verify these statements, and with authority and means for the determination of the physical valuation of railroads as one element in ascertaining fair value, whenever the commission shall consider it advisable to do so. Here is a plan which is neither radical nor unduly conservative, but definite as far as the complexity of the situation allows and capable of practical application without injury to the public, the railroads, or investors in railroad securities.

CHAPTER XVIII

BIBLIOGRAPHY

I

In so far as there may be said to be a literature of railroad finance, it is to be found largely beyond the range of specific titles, in writings in allied fields of inquiry and in documentary sources. The subject has been treated in monographs or special treatises dealing with corporate operations and investments; railroad construction, operation, and regulation; financial and industrial history; and in discussions bearing upon questions of public policy, legislation, and judicial decision. Source material and miscellaneous data of more or less value may be found in a great number and variety of places. In consequence, any bibliography approaching completeness, if its compilation were not admittedly impossible, would be so unwieldly as to be of little practical value.

Bibliographical Aids.—There is a dearth of bibliographical material upon the subject, but there are several catalogues and lists which serve as useful guides. Of these the most comprehensive is the catalogue of the Hopkins railway library of Stanford University. Others are the catalogues of the library of the American Society of Civil Engineers, and of the library of the New York Railroad Branch Young Men's Christian Association. The Library of Congress has issued lists of references on "Railroads in their Relation to the Government and the Public" and on the "Valuation and Capitalization of Railroads." Since its first issue, the *Archiv Für Eisenbahnwesen* has contained bimonthly lists of notable books and articles, and beginning with the second volume (1888) the *Bulletin* of the International Railway Congress has contained a monthly bibliography, compiled from periodicals and announcements of publishers in all countries. The *Economic Bulletin*, established in 1908, was given over to book reviews and current lists of publications. In 1911 it was merged in the *American Economic Review*. Beginning also in 1908 the *Journal of Political Economy* contained similar lists of recent publications until 1911 when the service was taken over by the *Bibliography of Social Science*, then

in its seventh volume. Of special lists, Bowker and Ile's "Reader's Guide in Economic, Social and Political Science" and Larned's "Literature of American History" contain titles on railroad finance. Lee's "Bibliography of the Baltimore and Ohio," the only publication of its kind, is many years out of date. Hartman's "Praktisches Handbuch über die Anlage von Eisenbahnen" (1837) contains a chapter on contemporary railroad literature, with references to English and American works. Most monographs on subjects in economic history and corporation finance, presented for the doctorate in American universities, contain more or less elaborate lists of source material, and an increasing number of such theses are being prepared upon railroad subjects. Chapter bibliographies are given in Hadley's "Railroad Transportation," McVey's "Railroad Transportation," Johnson and Huebner's "Railroad Traffic and Rates," and Johnson's "American Railway Transportation"; and a bibliographical note in Daggett's "Railroad Reorganization" gives some of the most important references in the general field, particularly railroad histories.

Periodical literature is readily available through indexes. Poole's "Index to Periodical Literature," with its yearly supplement—the Annual Library Index—covers the general field from 1802 to 1911. The *Reader's Guide to Periodical Literature*, begun in 1896, is issued monthly, with an annual cumulation. Faxon's "Magazine Subject-Index" is an annual volume, first issued in 1907, which covers periodicals not listed in Poole or in the Reader's Guide. It is a cumulation of the quarterly lists which appear in the *Bulletin of Bibliography*. Jones' "Index to Legal Periodical Literature" is complete to 1899. In 1908 the "Index to Legal Periodicals" began as a quarterly publication in connection with the *Law Library Journal*. There is a cumulative volume at the end of each year. For several years, also, the *Green Bag* has contained select lists of articles in the law journals. The "Engineering Index" appears monthly in the *Engineering Magazine*. Annual volumes have been published covering the period since 1884.

Periodicals.—The files of railroad journals and of periodicals devoted to financial and investment news are rich in materials upon every variety of subject concerning railroads, but there is need for critical handling. *The American Railroad Journal* was established at the beginning of the railroad era, and continued without essential change until 1886. Its early volumes were

devoted to the promotion of railroads and other internal improvements, but it later laid more stress upon financing and management, and finally changed to an engineering journal. From the files of this single periodical can be obtained a surprisingly large mass of data upon American railroad history. Second place must be given to *Hunt's Merchants' Magazine*, established in 1839, which gave much space to railroad news and statistics and contributed articles. *De Bow's Commercial Review*, published with interruptions from 1846 to 1880, was the representative magazine of the commercial and industrial interests of the South, and its files contain much railroad material. The second railroad journal established in this country was the *Railway Times*, which was begun in 1849 and continued for upwards of twenty years. While devoted to the mechanical side of the subject, it was also a medium for news and general discussion. Three important journals were founded in the fifties; the *Railroad Record*, the industrial and financial exponent for the Mississippi valley; the *United States Railroad and Mining Register*, the forerunner of the *Railway World* of to-day; and the *Railroad Gazette*. The *Railway Review* began publication in 1868, and continued for thirty years, when it was changed to an engineering journal. The *Railway Age* was established in 1876. Other railroad periodicals have been started at various times, to run for a few years and suspend. Their files are rare, but so far as they have been examined they are not of great value. All contain general railroad news items, statistics, and reports, with market quotations and general discussion. The *Railroad Gazette* in 1908 absorbed the *Railway Age*, and changed its name to the *Railway Age Gazette*. It is concerned primarily with engineering, operation, and finance. Of financial journals, the *Commercial and Financial Chronicle*, founded in 1865, is invaluable. It gives most complete and accurate abstracts of railroad reports, together with extended critical discussion. Its news section is more nearly authoritative than that of any similar publication, and its system of indexing makes that news easily available. From its files an outline history of almost any American railroad could be compiled. Its reports of reorganization committees are the fullest and most accessible. In its railway and industrial supplement, issued quarterly, are given financial statistics of recent date. Beginning in 1910, it has issued a monthly railway earnings supplement. *Bradstreet's* contains editorial comment, digests of railroad reports, and such news as ap-

peals to investors. The *Wall Street Journal* is not only a financial newspaper; it is a medium of editorial expression which is widely quoted, because it is both authoritative and independent. Railroad matters are extensively treated. Three foreign journals devote much space to American railroads. In Germany there is the *Archiv Für Eisenbahnwesen*, whose editor, Dr. Von der Leyen, has an intimate knowledge of American railroads. In England the *Economist* and the *Statist* exert great influence over the British holders of American railroad securities.

Histories.—There is a single book which attempts to cover the general history of railroads in the United States. Ringwalt's "Development of Transportation Systems" is, therefore, indispensable, but its usefulness is impaired by its lack of specific references to sources and by numerous errors, particularly in its statistical data. About half of Adams' "Railroads; Their Origin and Problems," is given over to discussion of the historical aspects of railroads in England and America. Sterne's article upon the "History and Political Economy of Railroads," in Lalor's Cyclopædia, is a thorough piece of work. Kennedy's series upon the "American Railroad," in the *Magazine of Western History*, contains detailed historical material upon the period prior to 1850. It is based upon a wide range of sources, but lacks specific citations. Short outline sketches of the development of American railroads abound in the shape of magazine articles, pamphlets, and chapters in books.

There are many collective histories which deal with the railroads of the country at large or of those of a single section. Among regional histories is Warman's popular "Story of the Railroad," Poe's "History and Construction of Transcontinental Railways," and Adams' "Canal and Railroad Enterprise of Boston" in Winsor's "Memorial History of Boston." Ackerman's "Early Illinois Railroads" is mainly an account of the rise of the Illinois Central. More comprehensive in scope are Flint's "Railroads of the United States," Poor's "History of the Railroads and Canals of the United States," and Stow's "Capitalist's Guide and Railway Annual," which contain summary histories of all important railroads. Van Oss's "American Railroads as Investments" gives outline histories of all principal systems, as do Snyder's "American Railways as Investments" and Meade's series of articles in the *Railway World* on the "Great American Railway Systems." Vernon's "American Railroad Manual" is made up largely of historical and statistical accounts of rail-

roads. The files of Poor's "Manual" contain much valuable historical material. For the early period, Tanner's "Description of Canals and Railroads" is fragmentary and inaccurate, as are all the Tanner books, yet there is no other contemporary American work of similar sort. Fortunately, Poussin's "Chemins de Fer Américans," Chevalier's "Histoire et Description des Voies de Communication aux États-Unis," and Gerstner's "Innern Communicationen der Vereinigten Staaten" admirably supply the deficiency. These are the reports of experts, made after careful and extended examination for the purpose of obtaining information for the benefit of European railroad men. They are filled with valuable detail which was overlooked by American writers.

There are a number of individual railroad histories, but they are of widely varying value. The histories of most of the older systems have been thought worth recording, and the records of some relatively unimportant railroads have also been written. Mott's "Between the Ocean and the Lakes" is a full and accurate history of the Erie, which holds first rank among works of its kind. Lord's "Historical Review of the Erie Railroad" is the work of a former president. The early years of the Baltimore and Ohio are treated in Bowen's "Rambles in the Path of the Steam Horse," and in two books by W. F. Smith—"History and Description of the B. & O. Railroad," and "The Book of the Great Railway Celebrations of 1857." Reizenstein's "Economic History of the Baltimore and Ohio Railroad" also has to do with the period of beginnings. Wilson's "History of the Pennsylvania Railroad" is confined to the lines east of Pittsburgh. It is based partly upon documents furnished by the company, but gives too little attention to historical matters other than biography. Bliss's "Historical Memoir of the Western Railroad" is not a book of reminiscences, but a full, authoritative history, which ranks high among books of its kind. Ackerman's "Historical Sketch of the Illinois Central Railroad" is a rambling biographical record, with far less material upon the Illinois Central than is to be found in his "Early Illinois Railroads." The pamphlet is rare, but of little value. Cary's "Lake Shore and Michigan Southern Railway" is largely devoted to biographical sketches, as is "The Reading Railroad: the History of a Great Trunk Line." Two of the "granger" roads have put out official histories. The files of the reports of the Chicago and North Western have been condensed into Stennett's "Yesterday and To-day." It is a bare outline record, but it has the advantage

of being authoritative. The "Organization and History of the Chicago, Milwaukee, and St. Paul Railway" was written by John Watson Cary, the last survivor of the group of men who built up that system. The book is a legal chronicle rather than a history, but it contains information which makes it of great value. It was written for the guidance of officials of the road, and never generally issued. One of the best railroad histories is Smalley's "History of the Northern Pacific." It is more than a railroad history; it is a history of the upbuilding of the whole Northwest. Wheeler's "Story of a Railway" is a mere sketch of the history of the same railroad, but it is well written and official. The affairs of the Union Pacific have received attention in two scholarly monographs—Davis' "Union Pacific Railway," and White's "History of the Union Pacific Railway." Though dealing with a single phase of the subject, Crawford's "Credit Mobilier of America" contains collateral historical material upon this road. No single account has been written of the history of the Central Pacific, but in the Bancroft "History of California," VII, and "Chronicles of the Builders," V and VI, there is much material, presented in a spirit favorable to the company. The other side is given in Robinson's "Octopus," which is a violently denunciatory record with details impossible either to accept or to disprove. Of like order, but probably more trustworthy is Graham's "Central Pacific Railroad," which presents detailed copies from official records to support charges against the company. A documentary source of value is the Report of the Pacific Railway Commission of 1887. The "History of the Old Colony Railroad" is a compilation of material from the annual reports of the company. A railroad history which deals more particularly with matters of municipal interest is Hollander's "Cincinnati Southern Railway." Hinsdale's "History of the Long Island Railroad" is a mere outline sketch. Individual railroad history is also the subject of many articles in magazines and papers in the transactions of engineering and historical societies. Many studies have been made of a single period in the history of a railroad. Such are Adams' "Chapter of Erie," Hill's "Beginnings of the Boston and Worcester Railroad," Latrobe's "Baltimore and Ohio Railroad," and Munsell's "Origin, Progress, and Vicissitudes of the Mohawk and Hudson Railroad."

Reports of Foreign Observers.—The observations of travelers, and reports of examinations of American railroads by foreign

experts are of decided value, historically and otherwise. The works of Poussin, Chevalier, and Gerstner, already mentioned, belong to this class. Gerstner was a Belgian who ranked among the leading European engineers of his time, and his reports of American railroad conditions are of greatest value. Chevalier's tour of America was made for the French government, as was that of Lavoinne and Pontzen, whose "Chemins de Fer en Amérique" is a remarkably accurate and comprehensive report. Dubois' "Chemins de Fer aux États-Unis" is a good general study of more recent date. Galton's "Railways of the United States," Priestly's "Report on the Organization and Working of Railways in America," and Collier's "Report on United States Railways"—all British government publications—have decided value for American readers. Other general studies by foreign critics are: Von der Leyen's "Nordamerikanische Eisenbahnen," Kupka's "Amerikanische Eisenbahnen," Hoff and Schwabach's "Nordamerikanische Eisenbahnen," Lustig's "Nordamerikanische Eisenbahnwerte," Santilhano's "Amerikaansche Spoorwegen," and Swann's "Investor's Notes on American Railroads."

II

Promotion.—A full bibliography of railroad promotion appears in Cleveland and Powell's "Railroad Promotion and Capitalization in the United States," which is a forerunner of the present work. Its contents need not be reproduced here; but to the references there given should be added Machen's "Treatise on the Modern Law of Corporations," which contains a chapter upon promotion and also a discussion of underwriting syndicates that is a most important contribution to the meager literature of the subject. Lough's "Corporation Finance" and Meade's "Corporation Finance" also contain chapters on these subjects.

Construction.—Much of what has been written upon railroad construction belongs to the literature of exposure, and not a little of it deals with the Credit Mobilier. Hassler's "Railroad Rings and Their Relation to the Railroad Question" is a general arraignment of construction company methods. Hadley's "Railroad in its Business Relations," and Davis' "Union Pacific Railway" also contain discussions of the general phases of the subject. The main facts concerning the Credit Mobilier are to be found in the reports of the Wilson and Poland committees, and in the *Congressional Record.* Senator Hoar, who was a member

of the Wilson committee, gave his final judgment in his "Autobiography of Seventy Years." The subject is also ably treated in Davis' "Union Pacific Railway," White's "History of the Union Pacific Railway," and Rhodes' "History of the United States," VII. Crawford's "Credit Mobilier" is an extended review of the official reports, with conclusions favorable to Oakes Ames. Rowland Hazard, a member of the executive committee of the seven trustees, presented a defense in his pamphlet on "The Credit Mobilier of America." Several books have been prepared to vindicate those who were put in bad light by the congressional investigation. The most noteworthy of these is "Oakes Ames; A Memoir," which was published by the Ames family. Hollister's "Life of Schuyler Colfax" contains a review of the evidence, and a defense drawn up after the manner of the jury lawyer. Garfield's "Review of the Transactions of the Credit Mobilier" is a political tract. The history of the building of the Central Pacific is given in the Report of the Pacific Railway Commission of 1887, with the accompanying testimony, and also in the voluminous Report made in 1897 by the Senate Committee on Pacific Railroads upon the question of refunding the government loan. Additional material is to be found in Graham's "Central Pacific Railroad Company." The defense of the company appears in Lansing's "Relations Between the Central Pacific Railroad Company and the United States," and in Haymond's "Central Pacific Railroad Company; its Relations to the Government."

Equipment.—The financing of railroad equipment is a subject which financial writers have left in comparative neglect. A series of four editorial articles on "Car Trusts," in the *Commercial and Financial Chronicle*, LXXXI, and LXXXII, traces the growth of the practice of procuring equipment through contracts of conditional sale, defines the methods employed, and considers those provisions of car trust agreements which affect the security of the certificates. The legal phases of the subject are treated in Rawle's "Car Trust Securities," Davis and Browne's "Car Trusts in the United States," Heinsheimer's "Species of Contract Known as Car Trust," and also in chapters in Baldwin's "American Railroad Law" and Short's "Law of Railway Bonds and Mortgages."

Additions and Betterments.—The physical condition of railroad property is a matter of first importance to the holder of securities, and maintenance and betterments therefore receive much attention from writers upon investments. Discussions

from this viewpoint appear in Moody's "Analysis of Railroad Investments," Snyder's "American Railways as Investments," Mundy's "Earning Power of Railroads," Woodlock's "Anatomy of a Railroad Report," and "The Physical Aspect in Railroad Accounting," and in Eaton's "Railroad Operations." Hardt's article on "Railway Maintenance of Way" has to do chiefly with physical detail. How's article on "Maintenance of Way and Structures" emphasizes the distinction between surcharged maintenance accounts and surplus. Cunningham's "Economics of Railroad Maintenance of Way," a short article, is a plea for more generous expenditures for betterments. The technical side of the subject is briefly treated in Byers' "Economics of Railway Operation." Berg's paper on "The Distinction Between Repairs and Improvements" submits a proposed classification of maintenance of way expenses which is intended to facilitate the exact separation of maintenance and betterments in railroad accounts.

Management.—Almost any topic in railroad finance might be properly considered under the head of administration or management. Here it will be restricted to include financial organization and financial mechanism. Byers' "Economics of Railway Operation" is an authority upon railroad organization. A more recent book is Morris' "Railroad Administration." An excellent work, by a British expert, is Priestley's "Report on the Organization and Working of Railways in America." The legal text books are the best references for particulars as to the nature of securities and the manner of their issue. Such are Helliwell's "Treatise on Stock and Stockholders," Cook's "Treatise on the Law of Corporations," Machen's "Treatise on the Modern Law of Corporations," Reid's "Treatise on the Law Pertaining to Corporate Finance," Beach's "Commentaries on the Law of Private Corporations," Elliott's "Treatise on the Law of Railroads," Jones' "Treatise on the Law of Corporate Bonds and Mortgages," and Short's "Law of Railway Bonds and Mortgages." Two recent works are Lough's "Corporation Finance" and Meade's "Corporation Finance." Other references worthy of mention are Rollins' "Money and Investments," Smith's "Financial Dictionary," Nelson's "Bond Buyer's Dictionary," and Chamberlain's "Principles of Bond Investment."

Accounts.—Several railroad auditors have prepared short papers upon the subject of accounting. Of these the most helpful is Plant's report, "On the Question of Bookkeeping," submitted to the International Railway Congress in 1905. It is a syllabus

setting forth the organization and methods of the accounting department of a representative American railroad. A later paper by the same writer is "Railway Accounting and the Preparation of Young Men for the Accounting Profession." The requirements of the Interstate Commerce Commission under the Hepburn act are set forth in County's paper, "On the Question of Statistics," which was submitted to the International Railway Congress in 1910. Another general paper is Burgess' "Underlying Principles and General Practices of Railway Accounting Departments." Whitehead's "Railway Auditor" is an elaborate syllabus of a course of lectures. Byers' "Economics of Railway Operation" contains a chapter on accounts, as do McPherson's "Working of the Railroads" and McVey's "Railroad Transportation." Dewsnup's compilation on "Railway Organization and Working" contains three addresses upon special branches of railroad accounting: Nay's "Duties of a Comptroller or Chief Accounting Officer," Dudley's "Work of a Freight Auditor," and Sloan's "Auditor of Expenditures." In Johnson and Huebner's "Railroad Traffic and Rates," there are chapters upon the accounting of freight and of passenger revenue. In Eaton's "Railroad Operations" there is much detailed but fragmentary discussion of the principles of railroad accounting. Two recent works upon the general subject of accounting are concerned with railroad accounts. Hatfield's "Modern Accounting" ranks as the best American book in its field. Cole's "Accounts," also a valuable work, bases much of its discussion upon illustrations from railroad practice. Under the authority of the Hepburn act the Interstate Commerce Commission has promulgated six classifications of operating accounts, an income account, and a balance sheet. These classifications are: "Operating Expenses;" "Operating Revenues;" "Expenditures for Road and Equipment;" "Locomotive-miles, Car-miles, and Train-miles;" "Additions and Betterments;" and "Outside Operations." All are issued in pamphlet form from the office of the commission. Before putting these orders into effect the commission issued at intervals, beginning in September, 1906, a series of circular letters containing tentative plans, with explanatory notes setting forth the principles embodied in the general scheme. There are upwards of thirty of these Accounting Series Circulars, and they are helpful as aids to an understanding of the purposes of the commission. On several occasions Doctor Henry C. Adams, until recently in charge of the division of statistics and accounts, has contributed to the

discussion of this subject—in the annual reports on the Statistics of Railways, in a published address upon "Supervision of Railway Accounts," and in an official letter "On Railroad Bonds as Securities from National Banks."

Statistics.—All writers upon railroad statistics go back for first principles to Fink's "Cost of Railroad Transportation." Woodlock's "Ton Mile Cost" is thus indebted to Fink, but its treatment of the subject is along independent lines. Talcott's "Transportation By Rail" is a railroad man's book, which attempts to show the character and cost of railroad service. The decision of the Railroad Commission of Wisconsin in the ease of Buell vs. Chicago, Milwaukee, and St. Paul (1907) contains an exhaustive discussion of the principles of allocation of transportation costs. Robinson's articles on the "Legal, Economic and Accounting Principles Involved in the Judicial Determination of Railway Passenger Rates," and "Railway Freight Rates and the Legal, Economic and Accounting Principles Involved in their Judicial Determination," together constitute a critical study of the methods of distribution of earnings and expenses as brought out in the above case and in similar cases. It is a valuable contribution to the scanty literature of the subject. Eaton's "Railroad Operations" gives much space to the discussion of statistical principles and methods, but it is without semblance of arrangement, and its pages are crowded with unessential detail. The subject of statistics is also considered in County's paper "On the Question of Statistics," to which reference has already been made, and in chapters in Priestley's "Report on the Organization and Working of Railways in America," and in McPherson's "Working of the Railroads." Peabody's paper on "Vitalized Statistics" is an exposition of the most advanced methods, with emphasis upon the subject of traffic statistics.

Reports.—With but few exceptions, states and territories require annual reports from railroads for the purpose either of taxation or of regulation. These reports are published as public documents, and their value necessarily depends upon the requirements of the statutes in each particular case. The fullest returns are required in Connecticut, Wisconsin, Massachusetts, Maryland, New York, and Vermont. The returns which are made to the Interstate Commerce Commission are published in the "Annual Report on the Statistics of Railways." The Interstate Commerce Commission prepared a special statistical report on "Railways in the United States in 1902" as a continuation of

the data in the tenth and eleventh census reports. All railroads submit annual pamphlet reports to their shareholders. These are collected and published in abridged form in Poor's "Manual of Railroads," Moody's "Manual of Railroads and Corporation Securities," and the "Manual of Statistics." Liberal abstracts of railroad reports appear as a regular feature of the *Commercial and Financial Chronicle.* The revenue accounts of the principal systems are compiled each year and published in Mundy's "Earning Power of Railroads." Copeland's "Comparative Analyses of Railroad Reports," is prepared in great detail, and published at a cost that puts it beyond the reach of the ordinary student or investor.

Expositions of the methods of analyzing railroad reports are few but adequate. Moody's "Analysis of Railroad Investments," published annually beginning in 1909, sets forth the methods of determining the value of railroad securities. It is easily the most helpful guide to the investor and to the student of railroad finance. Woodlock's "Anatomy of a Railroad Report" is a standard work of somewhat limited scope. A chapter on "Examination of Railway Reports" in Greene's "Corporation Finance" contains a detailed analysis of the report of a suppositious railroad in which the underlying principles are clearly brought out. A similar chapter is to be found in Byers' "Economics of Railway Operation." The introduction to Snyder's "American Railways as Investments" contains an extended discussion of the "Methods of Estimating Railway Values." Woodlock's article on "The Physical Aspect in Railroad Accounting" is a plea for more adequate physical data in annual reports. For critical reviews of the reports of railroads, the *Wall Street Journal* is the first authority, and this applies not only to the annual reports but also to the statements submitted throughout the year. The *Railway Age Gazette* also pays liberal attention to such reviews.

Receivership.—Railroad receivership is a subject of direct financial interest, but one which has been treated most in its legal aspects. Yet little of what has been written of the principles and methods of receivership is too technical for the student of finance. The nature of railroad bonds and mortgages is considered in Jones' "Treatise on the Law of Corporate Bonds and Mortgages," Short's "Law of Railway Bonds and Mortgages," Reid's "Treatise on the Law Pertaining to Corporate Finance," Cook's "Treatise on the Law of Corporations," and Thompson's

"Commentaries on the Law of Private Corporations." The textbooks on receivership necessarily devote much space specifically to railroads. Of these Alderson's "Practical Treatise on the Law of Receivers" and High's "Treatise on the Law of Receivers" are the most commonly used. Others are Beach's "Commentaries on the Law of Receivers," which was the forerunner of Alderson, Smith's "Law of Receivership," and Gluck and Becker's "Law of Receivers of Corporations." Useful articles are also to be found in both editions of the "American and English Encyclopædia of Law." In the textbooks on railroad law there are chapters upon the subject of receivership. The subject is extensively treated in Elliott's "Treatise on the Law of Railroads," Beach's "Modern Law of Railways," and Wood's "Treatise on the Law of Railroads."

Various disputed questions in the theory and practice of railroad receivership have been discussed in articles in legal journals and in published addresses. Storey's presidential address before the American Bar Association in 1896 was largely given over to a condemnation of "friendly" receivership as an invasion of the rights of secured creditors. Chamberlain's "New-fashioned Receivership" also follows this line of argument, though with less aggressiveness. Bispham's address on the "Rights of Material Men and Employés of Railroads as against Mortgagees" gives expression to alarm over the growth of the practice of allowing "back claims" in advance of the liens of bondholders. Metcalfe's article on the "Priority over Mortgage of Debts Contracted by Railroads before Receivership" is a much more satisfactory exposition of the same subject. Godkin's "Courts as Railway Managers" deplores the growth of railroad receivership and the loss to bondholders through the issue of certificates. Carr's monograph on "Receivers' Certificates" is the most extensive treatise upon this subject, which is also considered in the various treatises on receivership and railroad law.

The best general treatment of railroad receivership in its financial aspects appears in Greene's "Commercial Basis for Railway Receivership," which is also incorporated in the chapter on "Reorganizations and Receiverships" in his "Corporation Finance." McPherson's "Working of the Railroads" contains an outline discussion of the subject in the chapter on "Financial Administration," as does Sterne's article on "Railway Reorganization." The development of receivership is traced in Crowell's "Railway Receivership in the United States." Swain's mono-

graph on the "Economic Aspects of Railroad Receivership" contains a historical and statistical chapter and a good discussion of the administrative activities of receivers, together with a critical bibliography. The statistics of receiverships for the early period are not available in collected form. Probably the best source for this material is the *Commercial and Financial Chronicle*, though satisfactory results may be obtained from the use of files of railroad periodicals. The *Railway Age* for many years compiled an annual statement of railroads in receivership, and the *Railway Age Gazette* now follows this practice. The annual report of the Interstate Commerce Commission on the "Statistics of Railways" contains a brief statement of receiverships. For the period from 1884 to 1900 nothing is more useful than Meany's "Record of Receiverships and Foreclosure Sales," which appears as a part of "A Study in Railway Statistics" in the introduction to Poor's "Manual" for 1900.

Reorganization.—Daggett's "Railroad Reorganization" is one of the most comprehensive monographs in the entire field of railroad finance. It treats in detail of the reorganization of eight representative railroads, and in a summary chapter contains a critical discussion of the subject. Meade's "Reorganization of Railroads" is much briefer, but it is complete and decidedly useful. The subject is also considered in Meade's "Corporation Finance" and in Lough's "Corporation Finance." Other important studies appear in Green's chapter on "Reorganizations and Receiverships" in his "Corporation Finance," and in Beach's short article on "Railway Reorganization." Joline's address on "Railroad Reorganization," while largely given over to a discussion of the law of receivership, is decidedly worth while. Sterne's "Railway Reorganization" is fragmentary but suggestive. The legal side of the subject is treated in a number of textbooks, among which are Jones' "Treatise on the Law of Corporate Bonds and Mortgages," Reid's "Treatise on the Law Pertaining to Corporate Finance," Short's "Law of Railway Bonds and Mortgages," Beach's "Commentaries on the Law of Private Corporations," and Beach's "Modern Law of Railways," Clark and Marshall's "Treatise on the Law of Private Corporations," Machen's "Treatise on the Modern Law of Corporations," Elliott's "Treatise on the Law of Railroads," and Myer's "Winding up and Reorganization of Corporations," in the second edition of the "American and English Encyclopædia of Law."

Reorganization agreements together with critical and editorial comment may be found in the *Commercial and Financial Chron-*

icle. An analysis of the plans of reorganization of fifty-seven railroads appears in Meany's "Study in Railway Statistics" in Poor's "Manual" for 1900.

Consolidation.—Much of what has been written on railroad consolidation is chiefly concerned with its relation to rates, and the financial aspects of the subject have been comparatively neglected. In the Final Report of the United States Industrial Commission, Doctor William Z. Ripley has given the most adequate treatment of consolidation from the standpoint of finance, outlining its history, the methods by which it has been effected, and the results upon the public and the investor. He has continued the discussion in a recent article on "Railway Speculation." A less elaborate but valuable article is Newcomb's "Concentration of Railway Control." Keys' "Overlords of Railroad Traffic," and his "Shifting of Railroad Control," Newcomb's "Recent Great Railway Combinations," and Cunniff's "Increasing Railroad Consolidation" are short articles showing the extent to which consolidation has been carried out. One of the most important reports which has been prepared by the Interstate Commerce Commission has to do with the Intercorporate Relationship of Railways. This report furnishes complete information as to the extent to which the railroads of the United States are bound together through the ownership of shares. It is also the only adequate source for material pertaining to holding companies. Meyer's "History of the Northern Securities Case" is a full, detailed study of the events leading up to the final decision, and of the principles involved in that decision. The subject has been treated in a great many articles, among which may be mentioned, Garner's "Northern Securities Case," Cutting's "Northern Securities Company," and Randolph's "Considerations on the State Corporation in Federal and Interstate Relations; the Northern Securities Cases." A bibliography of this case, comprising over a hundred titles, appears in the Library of Congress "List of Books Relating to Railroads in their Relation to the Government and the Public." The law of consolidation is fully treated in Noyes' "Treatise on the Law of Intercorporate Relations" and in Clark's "Consolidation of Corporations." Legal textbooks bearing upon this subject are: Cook's "Treatise on the Law of Corporations," Morawetz's "Treatise on the Law of Private Corporations," Hirschl's "Combination, Consolidation and Succession of Corporations," Helliwell's "Treatise on Stock and Stockholders," Elliott's "Treatise on the Law of Railroads," and Beach's "Modern Law of Railways."

RAILROAD FINANCE

Overcapitalization.—Scattered throughout the literature of railroads is an abundance of material upon stock-watering, but the greater part of the discussion is so obviously biased and so lacking in the observance of the principles of fair exposition that it contributes nothing to the solution of this most involved question of railroad finance. The report of the Railroad Securities Commission, transmitted to congress in December, 1911, is easily the leading authority. In a class by themselves among individual contributions to the discussion are Ripley's "Capitalization of Public Service Corporations," which is an enlarged version of the author's discussion of the subject in the Final Report of the United States Industrial Commission, Green's "Railroad Stock-watering." which also appears in somewhat different form as a chapter on "Public Policy Toward Corporation Profits" in his "Corporation Finance," and Bullock's paper on "Control of the Capitalization of Public Service Corporations in Massachusetts." Doctor Ripley considers the different principles of capitalization, the methods of stock-watering, and the effects of inflation upon the shipper and the investor. Further discussion of the subject appears in his article on "Stock-watering." Spencer's "Prevention of Stock-watering by Public Corporations" is a brief article along similar lines, Greene's "Railroad Stock-watering" is a temperate discussion from the investor's standpoint, in which is made a distinction between justifiable and unjustifiable methods of inflation, and a plea for a fairer public attitude toward reasonable returns on railroad investments. Doctor Bullock's article is a critical discussion of the ultra-conservative attitude of Massachusetts toward capitalization. Many attempts have been made to determine the extent of overcapitalization of American railroads. Marx's "Finances of Engineering" presents estimates to show that they are enormously inflated, and Meade's "Cost of American Railroads" tends to the opposite conclusion.

A long list might be presented of books and articles containing references to this subject of watered stock. Railroad men are unable to consider it in its broader aspects, as is evident from the writings of Stickney, Fish, Kirkman, and others. Morgan's "Public and the Railways" is an example of the extremes to which an over-zealous railroad sponsor may go, and Thompson's "Cost, Capitalization, and Estimated Value of American Railroads" is a subsidized compilation which makes no pretensions to lack of bias. On the other side, and also lacking in breadth

of view, may be cited Hudson's "Railways and the People," Larrabee's "Railroad Question," and Van Oss' "American Railroads as Investments." Watered stock from the legal standpoint is considered in detail in Helliwell's "Treatise on Stock and Stockholders" and in Cook's "Treatise on the Law of Corporations."

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